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ABSTRACT

Conducted during the Institute for Steelband Playing held in 1988, this study's aim was to understand how Trinidadian people view, experience, explain, and order specific elements of their musical world, with the goal of providing an information base for establishing steelband programs in Canadian schools. The study focused on (1) How did the steelband evolve as a musical ensemble? (2) How are steeldrums traditionally constructed and tuned? (3) What are the stylistic relationships between the calypso song form and the calypso steelband form? and (4) How is music taught and arranged in Trinidad? The methodology employed principles generally associated with qualitative orientations to conducting research. Data were collected and then an ordering of theoretical ideas from the interrelationships among concepts that emerged from the data took place. Some data sources included (1) the panyards where steeldrums were constructed and tuned; (2) Trinidadian panmakers-in-residence Jim St. Rose and Albert John; (3) institute rehearsals and instructional sessions conducted by Trinidadian pannist and arranger Ray Holman; and (4) visual records such as photographs and video. Data were gathered by observation, interviews, and discussions; photography; and audio-recording. The paper identifies important points in the evolution of Trinidadian steelband; identifies the various stages of the construction of steeldrums; summarizes the stylistic links between calypso and steelband; and examines how music is taught and arranged in Trinidad. Questions for further study are recommended. Tables, figures, examples, and photographs are provided. Contains 67 references. (LAP)

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# A Descriptive Study of a Canadian Elementary Music Educator's Experience with the Trinidadian Tradition of Steelband

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SO 026 913

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## An Overview of the Research Strategy

The Institute for Steelband Playing held from July 4 to August 5, 1988 was designed to give music educators and musicians an opportunity to learn about various aspects of the art form such as panmaking, playing, arranging and band program development. In keeping with authentic traditions, an expert steeldrum tuner and his assistant were brought from Trinidad at the beginning of May, 1988. A "panyard" was set up outdoors on location at the University of Manitoba where a nineteen piece steel ensemble was constructed and tuned. It proved to be a very convenient and naturalistic setting for those people interested in observing and recording the actual process.

Participants in the institute were extremely fortunate to be able to spend one hundred hours of instructional time with world reknown steelbandsman, Ray Holman. As lecturer at Fatima College in Trinidad and award-winning pannist and arranger, Holman was well-qualified to bring the Trinidadian tradition of music-making to western musicians on Canadian soil. Supplementary instruction was given by Dr. Colin Walley, an ethnomusicologist and music educator who recently studied the phenomena of steelband for a prolonged period in Trinidad and was responsible for establishing the summer institute (Walley, 1987b).

Focus of the Study

The researcher viewed the institute as a veritable and economical setting from which to conduct an ethnomusicological study of the Trinidadian tradition of steelband. Mirroring the phenomenological perspective, the primary aim of the study was to move towards understanding how Trinidadian people view, experience, explain and order specific elements of their musical world.

The following lines of questions gave focus to the study:

1. How did the steelband evolve as a musical ensemble?
    - 1.1 What cultural influences came to bear on the development of steelbands?
    - 1.2 What socio-political circumstances affected the development of steelband?
    - 1.3 What distinct, evolutionary stages can be identified and explained?
    - 1.4 Did particular individuals play contributory roles in the progress of steeldrums?
    - 1.5 How did the steelband become so firmly rooted in Trinidadian culture?
2. How are steeldrums traditionally constructed and tuned?
    - 2.1 What distinct construction stages can be identified and explained?
    - 2.2 What raw materials and tools are used in the construction process?

2.3 How is the construction of higher and lower pitched drums different?

2.4 How is fine-tuning accomplished and organized on the steeldrum surface?

3. What are the stylistic relationships between calypso song form and calypso steelband form?

3.1 What is the nature and value of music in the lives of Trinidadian people?

3.2 What are the shared functions of calypso and steelband in Trinidadian society?

3.3 How can the Trinidadian musical idiom be appreciated from a western point of view?

3.4 What are the musical characteristics of the calypso style?

4. How is music taught and arranged in Trinidad?

4.1 What principles of learning can be discerned from this ethnic model?

4.2 What instructional style is employed by steelband teachers?

4.3 What kind of music is appropriate for steelband arrangements?

4.4 What procedures and techniques are used by steelband arrangers?

Methodology

The methods employed for the present study are generally associated with qualitative orientations to conducting research. The researcher began with an intensive effort to collect data and then proceeded to order theoretical ideas from the interrelationships among concepts that emerged from the data. The inductive nature which characterizes this strategy is based upon the grounded theory proposed by Glaser and Strauss (1967).

The initial phase of the study was used to discover appropriate and important strands of questions. A "hypothetical outline" provided a frame for clustering and interpreting information. Continual engagement in data collection and analysis resulted in a constant re-working of the theoretical outline to account for new and important ideas. This process of tailoring the theory generated is sometimes referred to as analytic induction (Goetz & LeCompte, 1981).

Research Design

Most qualitative studies offer the researcher opportunities for situational discovery and subsequently require some room for flexibility and change when defining the parameters of the study. It follows, then, that the research design is more emergent and evolving (Bogdan & Biklen, 1982). In the case of this study, however, the setting was already quite structured by institute planners. Logistical constraints, coupled with the fact that at least the general nature of

discoveries were quite predictable from the outset, made the design for this study somewhat more ordered than usual.

In planning the research from beginning to end, the following steps were taken: (a) defining and timetabling the issues to be addressed; (b) selecting the best methods available for collecting data to address those issues; (c) analyzing and interpreting data; (d) drawing conclusions; and (e) reporting findings. As the researcher became more familiar with the resources and setting, design decisions were superimposed and modified to ensure a smooth flow of activity.

Data Sources and Sampling

The sources of data from which inferences could be made fell into two major categories. The most direct sources available to the investigator were: (a) the panyards where steeldrums were being constructed and tuned; (b) Trinidadian panmakers-in-residence, Jim St. Rose and Albert John; and (c) institute rehearsals and instructional sessions conducted by Trinidadian pannist and arranger, Ray Holman.

Indirect but valuable sources of data included: (a) written documents; (b) ethnomusicologist and co-instructor, Dr. Colin Walley; (c) guest presenters from the local Caribbean community; (d) recordings of authentic steelbands; (e) notations of Trinidadian music; and (f) visual records such as photographs and video.

The researcher offers the following reasons for selecting and evaluating sources of data: (a) potential to contribute to theory building; (b) primary source of information; (c) high degree of authenticity; (d) Trinidadian/West Indian publications; (e) recognized expert in the field; (f) noteworthy, authoritative authorship; (g) high potential for reliability; and (h) face validity.

Data Collection Methods

Ethnomusicologists attempt to gather data directly in the cultural setting under investigation. It is believed that meanings are best discovered in the context of occurrence by simply studying natural modes of music-making. Data gathered through fieldwork encompassed: (a) focused and general observation; (b) participant observation; (c) structured interviews and questions; (d) discussions with key informants; (e) photography; (f) audio-recording; (g) content analysis of written and musical documents; and (h) auditory analysis of recordings. The following tools were used extensively: (a) field notes; (b) camera; (c) steeldrum; and (d) cassette recorder.

Data Analysis

The data collection techniques employed yielded a vast amount of information from a good number of sources. The researcher worked rather intuitively to systematically organize the data, interpret the findings and communicate this new information to others. It generally involved clustering

data into major sections, defining related sub-topics and presenting concepts in a prose format.

The dispersed findings assembled into meaningful sets were then logically interwoven into a descriptive model of the setting under review. Efforts were also made to provide reduced data displays. The final task was to draw progressive concluding statements based upon the documented findings presented throughout.

## The Evolution of Trinidadian Steelband

The historical development of steelband in Trinidad is one of the most remarkable and fascinating in the musical world. An interesting mosaic of instruments evolved from the mixing of African, European and East Indian musical cultures in the Caribbean. Among the most recent contributions are the steeldrums which resulted from the steadfast, progressive work of steelbandsman. Through an untrained, but sophisticated tinkering with the physical parameters of metal sounds, these Trinidadian people invented a genuinely novel and original folk instrument (Peters, 1976; Sealey & Malm, 1982; Prospect, 1986).

### Camboulet and Bobolee Bands

The Africans came into the Caribbean during the slavery era and brought with them a grounded drum tradition referred to as Camboulet (Gibson, 1986a). The use of shango and shouter rhythms in ritualistic drumming was common during sacred gatherings and ceremonies. Since the British and European colonists were fewer in number than the Africans, efforts were made to maintain control. There was a deliberate effort to temper the practice of religious tribal costumes. The natives were negatively reinforced by shameful verbal remarks and positively rewarded with easier physical tasks called plums (Peters, 1976).

The African people remained in an oppressed state. The plantation supervisors believed that a coup or uprising was

possible. They began to fear that communication by means of drumming might become the impetus for revolt (O'Conner, 1981a; Gibson, 1986a). Legal restraints introduced an emotional stress into the lives of the slaves and substitute instruments were sought out for everyday expression.

In an interview with Rafael De Leon, Goddard (1985) discovered that as early as 1860-70 evidence of pan bands existed. Bobolee Bands were organized by underprivileged people of all ages and racial backgrounds, particularly for Good Friday celebrations. These ensembles comprised of such items as dust bins, oil tins and paint tins also paraded on Carnival days and were known as Pan Bands. Current writers of Carnival brochures (Trinidad & Tobago Tourist Board, 1984) accredit steelband roots to these ceremonial steel processions and camboulet.

The Africans continued to grow in number and their music-making practices augmented. They became public nuisances by playing late at night. Riots and conflict between the natives and the authorities eventually led to an eventual banning of drum processions after Carnival of 1883 (Sealey & Malm, 1982).

Tamboo Bamboo and the Bottle and Spoon

After the ruling powers banned the use of drums in Trinidad, a musical void was created. This void was gradually replaced through music-making by striking sticks of bamboo at the resonant joints (Simmonds, 1959; Peters, 1976; Trinidad & Tobago Tourist Board, 1984). From about 1900 until the mid

1930's, Tamboo Bamboo became the music of ordinary people who could not afford expensive brass or woodwind instruments.

Tamboo Bamboo bands were designed to give similar musical effects as the three-drum ensembles and were played during Carnival or other major occasions. The purely rhythmic grouping consisted of the large Boom or Bomb which kept the basic timeline, the lead Cutter that played various rhythm patterns, the high pitched Foule which knitted the polyrhythms, and the bottle and spoon that offered textural variety (Sealey & Malm, 1982; Goddard, 1985).

The Bottle and Spoon evolved out of the festivities at more minor social events. During parties and fetes in private dwellings, it was customary to consume beverages and then refill the bottles with varying amounts of water. The bottles were played rhythmically with table spoons or metal beaters such as nails (Richards, 1988). Sometimes different pitches were created to harmonize with popular songs or calypsos (Peters, 1976).

Ellie Mannette, interviewed by Gibson (1986a), recalled the Tamboo Bamboo era as a troubled one. There was much infighting between bands and ethnic groups and Tamboo Bamboo eventually was reduced to dangerous street fighting. Instruments were sharpened and used as swords (Peters, 1976). The government authorities worried about the safety of the people and about the strains on the bamboo population itself in Trinidad. The year 1934 saw an end to Tamboo Bamboo when its

use was finally banned. The people now became even more frustrated with no Camboulet or Tamboo Bamboo for Carnival celebrations.

Early Rhythmic Steelpan Bands

There is much disagreement in the literature about the first inventors of pan as it is known today. It is probably safe to assume that good ideas do not just come to one person. Sometimes in the music history of Trinidad, it does seem that the efforts of many creative carnival musicians are realized by the recognition of certain individuals.

Prospect (1986) among others give evidence that pan beating as part of bamboo and bottle ensembles was practiced in the earlier 1930 years. In light of the constraints on Tamboo Bamboo, however, one man in particular did not ignore legislations as did others. Prior to Carnival of 1935, Alexander Ford went about the area and collected a number of garbage can lids, grease barrels, biscuit drums, paint tins, etc. He completely discarded Tamboo Bamboo and the Alexander Ragtime Band was the first to parade entirely with an ensemble of steel rhythm pans (Gibson, 1986a; Prospect, 1986). Some bands persisted with Tamboo Bamboo that year but by Carnival 1936, these rhythm Steelpan Bands were well established.

Goddard (1985) explained that up until the late 1930's there was really very little functional difference between early steelpan bands and Tamboo Bamboo. The relative instru-

mentation was easily discerned and the musical effect was polyrhythmical. The Cutters and Foules gave way to paint tins, garbage pans or other pans made of tin or galvanized iron, while the large biscuit drum replaced the Bomb. The Bottle and Spoon was discarded for used metal auto parts. The musical expressions of the Trinidadian people remained in the rhythmic steelpan mode until the start of World War II.

Early Melodic Steelpan Bands

The years of the second world war resulted in the termination of Carnival. Mannette explained that German soldiers would parade into the harbours of the Caribbean and it was felt dangerous to have multitudes of people in these areas (Gibson, 1986a). Prospect (1986) set the scene so appropriately with these words:

> As World War II raged, Trinidad like the rest of the world felt its effect with food shortages, poor housing, lack of education, no recreational facilities, poverty and frustration high among the youths, who tried to channel their energies as best they could. They gathered in groups or gangs at street corners talking, gambling, or just plain idling. Some spent the day in cinemas or around them hoping to secure a job by collecting tickets, some again took to beating pans all day and night causing the neighbours to complain

to the police. (p. 9)

The kind of activity described above marked an experimental period for individual pan musicians in the back yards and open lots of Trinidad. The early rhythm steelpans gradually progressed through a transformation to melodic instruments.

> It was discovered that different sizes of bulge on a metal surface gave different notes. Some of the more inventive players started to tune the dustbins and play melodies on them. (Sealey & Malm, p. 30)

Winston "Spree" Simon is most often accredited as the inventor of the first melodic steelpan (Collins, 1988a; Prospect, 1986; Richards, 1988; Gibson, 1986a; Peters, 1976). Spree was a kettle drum player in the John John Band who lent his instrument to a friend on one occasion. This musician played so rigorously that the surface of Spree's drum was beaten out of shape (O'Conner, 1981a). In attempting to pound his kettle drum back into shape, Spree discovered different musical tones could be produced. The earliest experiments results in two or three-toned instruments (d-r-m). By 1940 Spree produced an eight-tone forerunner of the pingpong or tenor pan, what he called the Melody Pan (Prospect, 1986).

Early melodic steelpans were constructed from long biscuit tins and small discarded oil containers about one foot

in diameter and two feet long. During this period drums were constructed by hammering the end from the inside outwards so that the head dented upwards (Peters, 1976; Gibson, 1986a). The drums were hung around the player's neck and were beaten first with the open palm or closed fist and later with raw wooden sticks (Richards, 1988).

In 1941 Ellie Mannette was the first to sink the drum surface and improve the sound quality of the pan. Prospect (1986) claimed that he started a more sophisticated pan crafting process. Mannette "cut the pans into various sizes and shapes, the surfaces beaten into convex shape, they were grooved, tempered and tuned for the first time into musical instruments known as pingpong, seconds, strummers, tenor bass and played with two sticks wrapped with rubber tubing at one end." (p. 9) Sealey and Malm (1982) paralleled the sections of the early melodic pan ensembles with their bamboo and string counterparts.

The spirit of the melodic pan captured the people and spread like wildfire (Richards, 1988). On May 6, 1945 a celebration or jump up was promised to the populace to recognize the end of fighting in Europe. After a five year and eight month period there was a recall of Carnival. During victory week, Trinidad was inaugurated with the cacaphonic sound of melodic steelpan bands. The year 1945 marked the last year that the small melodic steelpans were played.

The Birth of the Modern Steelband

Later in the 1940's, the forty-five gallon oil drum replaced the biscuit and smaller oil containers used for building pans (Prospect, 1986; Sealey & Malm, 1976). Ellie Mannette, sometimes referred to as the "Father of the Steeldrum", constructed the first fourteen-note steel drum out of a large oil barrel (Simmonds, 1959; Collins, 1988a). In an interview with Gibson (1986a), Mannette relived the story of how he entered and won a talent contest with his new instrument. He came up on stage, revealed the four month creation which was hidden in a sugar bag, and played Brahms' "Lullabye" and a popular tune, "Laura". This event represented a new dimension in the development of the steeldrum. It now possessed a wider range, richer tone quality and was played by younger more innovative musicians.

These larger instruments were still carried around the neck of the player and sound was produced by beating with raw sticks. Richards (1988) shared an anecdote about "Boney", an old friend who could carry a bass pan "across the fire yard, downtown and back." Manitoba readers might imagine themselves walking from Portage and Main to Polo Park Shopping Mall with a full-sized oil barrel hanging from their neck to get a better feeling for the strength and energy which would have been required by these early instrumentalists.

The following transcription is intended to give readers

a better indication of the sociological setting at this time:

> Activities of steel bands were still limited to Carnival and the other appearance at the home of some big shot. This was usually to satisfy his need to display these primitive people, as he would think, in those days to some overseas visitors. (Richards, 1988)

This post-war period was a time of much internal dissension among the steelbands (Richards, 1988). Consistent fighting after competitions caused a very negative stigma to be associated with the steelbandsmen. Until 1949 the rivalry between bands remained very intense and the reputation of the pansmen was very poor. Mannette recalled that the steeldrum players were named vagabonds, outcasts and rogues (Gibson, 1986a).

In 1949, the government intervened, provided mediation and set a collective goal for the troubled young bandsmen. The Trinidad and Tobago Youth Council gathered all the steelbands together and helped to counsel members towards more appropriate social behavior. In 1950 the Trinidad All Star Percussion Orchestra (T.A.S.P.O.) was formed by drawing one player from each of the local bands (Collins, 1988a; Richards, 1988; Gibson, 1986a; Prospect, 1986; Sealey & Malm, 1982; Goddard, 1985).

This nationally sponsored steelband was conducted by a Lieutenant Griffith who ordered the construction of instru-

ments with a larger, chromatic ranger (Gibson, 1986a). The ensemble at this time included a single bass, single second, single guitar, double cello and single leads. By 1950, the steeldrummers conquered a whole range of musical styles from sambas to classics to calypsos. The 1951-52 performances by the T.A.S.P.O. in the Festival of Britain in London and at other engagements in Paris were an enormous success. Upon the band's return, member Ellie Mannette further developed the orchestra by creating the double second, double guitar and other expanded sections.

In 1952 the Trinidad and Tobago Biennial Music Festival included a class for Steelband. The Trinidad Music Association, in doing so, attempted to channel the persisting infighting among bands to the more sophisticated setting of the music competition (Trinidad & Tobago Tourist Board, 1984). Richards (1988) said that criticisms regarding favoritism resulted from the employment of local judges. These classes did, however, offer one avenue towards developing a body of fine pan soloists up until 1962 (Goddard, 1985).

The 1960's are often thought of as the Golden Era of the Steelband Movement in Trinidad (Trinidad & Tobago Tourist Board, 1984). The number of Steelbands grew and the repertoire became increasingly more complex and impressive. The reputation of the bands was gradually becoming more positive and the instrument was recognized as an important twentieth century discovery. A Steelband Association was formed

in 1963 and organized its first Independent Steelband Festival. The National Association of Trinidad and Tobago Steelbands (N.A.T.T.S.) was inaugurated in 1964 and developed festivals with European adjudication (N.A.T.T.S., 1964; Goddard, 1985).

Richards (1988) gave the following scenario:

> So in the early 60's an adjudicator by the name of Dr. Northcote of the United Kingdom was sent, Sidney Northcote, was sent to Trinidad to judge the festival. Of course you can imagine the condescending attitude of Dr. Northcote. These boys are, they were good boys, fine fellows, fine chaps, however, in his opinion steelband should limit itself to calypso and Latin American music. While four years later, Dr. Northcote returned to Trinidad and was made to eat crow when steelbands performed in front of him music by Handel, Bach, Beethoven, Debussey, Tchaikovsky, and the greats of Europe who had written their music hundreds of years before. Now I would like you to understand that these pieces were played perfectly. Every nuance of Bach and Beethoven was played by these men on these pans without being able to read music. These men committed to memory everything exactly as the greats had performed it and Dr. Northcote went away amazed. He is reputed to

> have said when he heard the Invaders Steelband playing a tune called "In a Monastary Garden" that it reminded him of being back in England in his garden sipping his tea and listening to the birds twitterin' in the wind. It took Northcote and brought him down from his condescending attitude four years before and then he was an okay guy.

The modern Steelband progressed very quickly into churches, onto airwaves and longplay records. Steelbands were organized among the protective service groups such as police and coastguards. The bands began to represent Trinidad and Tobago during world tours including a fourteen-state U.S. music visit and Expo '67 in Canada. The Steelband was now clearly established as a part of the Trinidadian national culture (Goddard, 1985; Trinidad & Tobago Tourist Board, 1984).

During the 1970's Steelbands exploded into one hundred member Steel Orchestras. The individual pansmen and the smaller bands went into a slight decline. A condition referred to as the Panorama Syndrome resulted from a total immersion by pansmen into preparation for the main Carnival event (LeGendre, 1976). In 1971 Pan Trinbago replaced the N.A.T.T.S. as the national body governing Steelbands.

There are efforts being made in the 1980's to return to the more compact, original Steelband activities and to span

the entire calendar year. In 1981 the School Steelband Music Festival was started to challenge the concentration on Panorama (Trinidad & Tobago Tourist Board, 1984). Pan Trinbago envisions a Steelband headquarters for the future which will encompass facilities such as a school for steelband, research and development center, library, recording studio, administrative offices and a festival hall. The on-going dream of the pan movement revolves around this complex that will someday serve as the symbolic center for Trinidad's Steelband.

## Concluding Statements

The purpose of this section has been to identify important stages in the evolution of the Trinidadian Steelband. The record began with a discussion of the early musical ceremonial practices of the African slaves. The rise and fall of skin drumming, tamboo bamboo and the bottle and spoon were outlined. A stage distinction was made between the use of the steelpan as a rhythmic instrument and a melodic one. The timeline in Table 1 serves to summarize the major historical events in the development of the steelband in Trinidad. And finally, the birth of the modern steelband and the growth of the steelband movement were considered.

TABLE 1

Timeline Showing the Major Historical Events in the Development of the Trinidadian Steelband

| Timeline | Major Historical Events |
|---|---|
| Pre 1900 | - predominant music was ritual skin drumming called Camboulet performed by African slaves<br>- emergence of first pan bands called Bobo-lee Bands played by the multi-raced under-privileged on Good Friday celebrations<br>- government banning on skin drumming |
| 1900 to mid 1930's | - primary mode of musical expression was Tam-boo Bamboo and the Bottle and Spoon played by the lower socio-economic classes on occasions that warranted celebration<br>- government banning on Tamboo Bamboo |
| 1935 to 1939 | - Alexander Ford brings the first rhythmic steelpan ensemble to Carnival in 1935<br>- Steelpan Bands comprised of biscuit drums, garbage can lids, paint tins, grease bar-rels, auto parts, etc., emerge and replace Tamboo Bamboo during Carnival celebrations |
| 1935 to 1945 | - World War II results in a temporary termi-nation of Carnival and an experimental period by pansmen<br>- Winston "Spree" Simon creates the first true three-tone Melody Pan in 1939 and the eight-tone forerunner of the pingpong in 1940<br>- small tins and oil containers provided the main raw material for pans hung from the neck and played with open palm, closed fist, or wooden sticks<br>- Ellie Mannette sinks the drum surface and improves both the sound quality and craft-ing process<br>- early melodic steelpan bands emerge with up to four sections and refined rubber headed mallets during the 1945 victory week |

| Timeline | Major Historical Events |
|---|---|
| 1946 to 1959 | - Ellie Mannette builds the first Steeldrum out of a 55 gallon oil barrel in 1946<br>- Steeldrum range becomes wider and the sound richer<br>- Trinidad and Tobago Youth Council forms a national steelband (T.A.S.P.O.) in 1950<br>- conductor of the Trinidad All Star Percussion Orchestra, Lieutenant Griffith, is instrumental in extending the range of the steeldrum to include chromatic tones<br>- ensemble around 1950 includes single bass, single second, single guitar, double cello and single leads<br>- T.A.S.P.O. performs successfully in the Festival of Britain in 1951<br>- Ellie Mannette further expands the sectional range of the Steelband in 1952<br>- Steelband classes are included in the 1952 Trinidad and Tobago Bienniel Music Festival |
| 1960 to 1969 | - Steelbands increase in number and musical repertoire becomes more complex<br>- Steeldrum is recognized as an important 20th century discovery<br>- Steelband Associations are formed in 1963 and 1964 and organize independent festivals for the instrument<br>- radio, church, recording appearances<br>- protective services bands are formed<br>- world tours including the U.S. and Expo '67 in Canada |

## Constructing and Tuning the Steelband

The arts of steelband construction and tuning have come a long way from their inception in the melodic pan era. Today the handcrafting of steeldrums has become a methodical and sophisticated process. Likewise, the amazing work of the tuner is highly delicate and demanding.

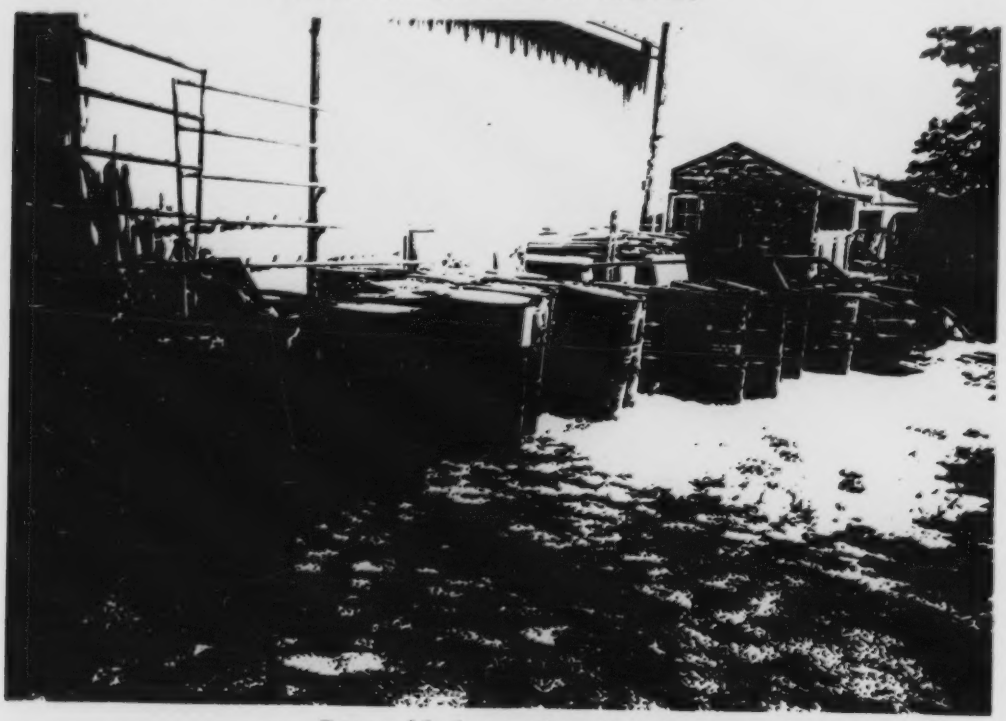
The purpose of this section is to outline for the reader a sequence of stages that would typify the Trinidadian process of creating a steeldrum from an oil barrel. The primary source of information was collected from firsthand experiences at the University of Manitoba "Panyard". The writer had the good fortune of being able to interview, observe and photograph world class steelband tuner, Jim St. Rose, and his assistant, Albert John. The two experts were brought to Winnipeg, Manitoba from Trinidad in early May, 1988 to construct a nineteen piece steelband for the Institute for Steelband Playing held July 4 to August 5, 1988 at the Faculty of Education. The construction of the instruments on location served to be a most valuable, authentic source of data for the researcher. Supplementary documentation was also gathered through a content analyses of existing literature and transcriptions of guest presenters.

### Stage 1: Obtaining Raw Materials

The first step in constructing steeldrums is to search out the best raw materials available (Snider, 1986b). Selections are generally made from a pool of A grade full-sized

oil barrels that measure 23 inches in diameter (Morin, 1988). These have a forty-five gallon capacity and are made from 18-gauge mild steel (McCarthy, 1988; Prospect, 1978a).

The number of barrels required would depend on the overall size and the sectional make-up of the desired steeldrum ensemble. A total of fifty-six barrels was necessary to build the nineteen instruments for the summer institute band. The size of each section was as follows: four tenors, two double tenors, three double seconds, two double guitars, two triple cellos, one quad cello, two tenor basses, and three low basses. The photograph below shows some of the raw barrels donated to the University of Manitoba by Shell Oil Canada for the construction of its bands.



Raw oil barrels at the
University of Manitoba "Panyards".



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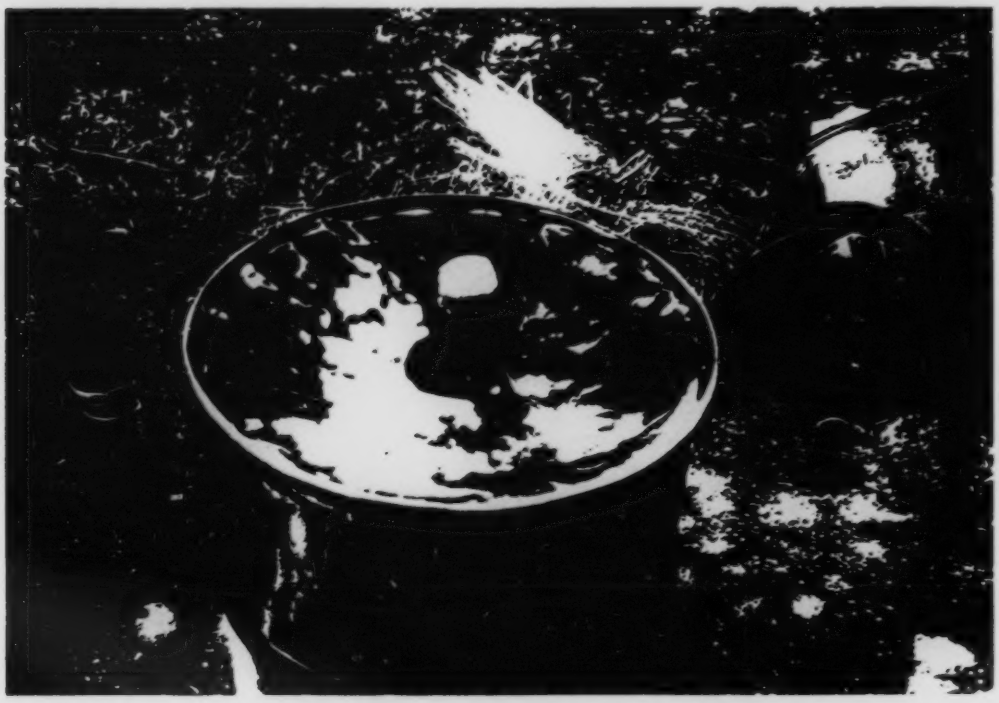
Stage 2: Sinking

The second stage of steeldrum construction involves pounding one end of the oil barrel into a rounded, concave shape. The purpose of sinking, as labelled in a newspaper article by McCarthy (1988), is to stretch the end of the barrel that has no top hole. Richards (1988) explained that sinking increases the surface area so that more notes can be included. Sinking will be quite shallow for low drums and deeper for high drums.



**Cannonball used by Albert John to sink the surface of an oil barrel.**

There are three tools commonly employed by drum-makers in the process of sinking; an eight to ten kilogram sledge-hammer (Sealey & Malm, 1982), shot-put (Richards, 1988) or a



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cannonball. During a field visitation the researcher was able to observe and photograph the use of two tools as Albert John worked tediously.

Albert John sinking an oil barrel
with a sledge-hammer.

Stage 3: Grooving

The third stage in steeldrum construction involves a process of roughly establishing the tones called grooving (Moberg, 1987). Lower pitched drums will require that fewer notes be scored on each surface than higher pitched drums. Prospect (1978a) rationalized that the purpose of grooving is to confine the vibrations which produce the note to their particular sector of the drum surface.

Using a model copy, panmakers mark the surface of the

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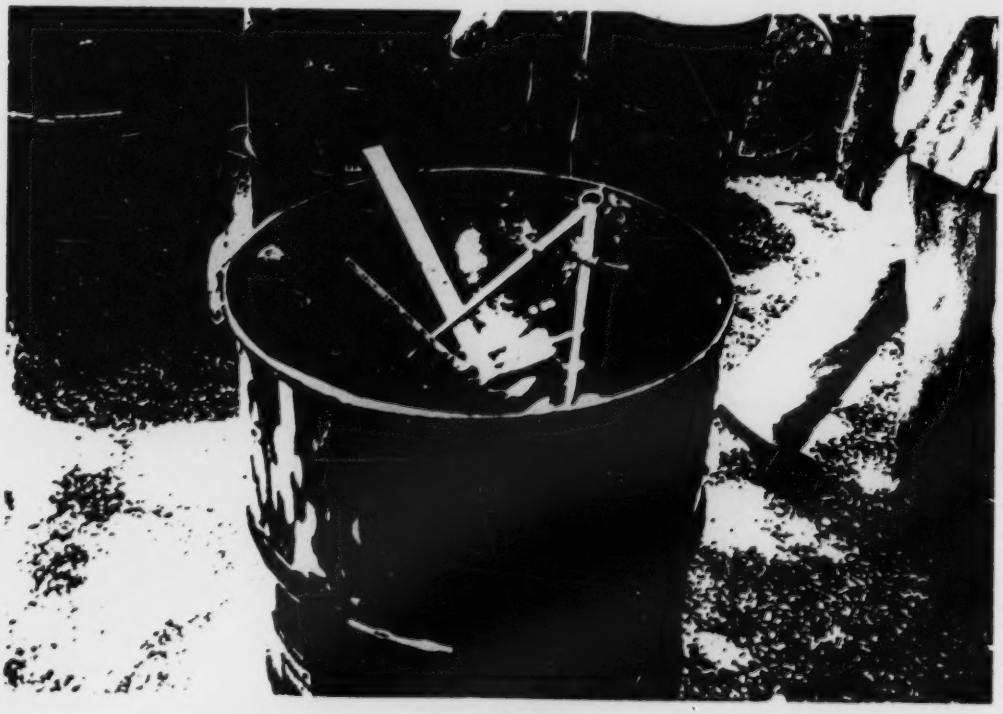
drum with chalk where the dents for the notes are to be scored (Sealey & Malm, 1982; McCarthy, 1988). Then a mandrel (or steel punch) and hammer are used to "groove" the metal along the chalk markings with hundreds of tiny taps (Snider, 1986b). Sealey and Malm suggested using a punch tip of about 1.5 to 2 mm in diameter to prevent making holes in the steel. The seams are then made smooth using a hard piece of wood or chisel. And finally, the oil barrel is cut with a machette to the appropriate height and the notes are knocked up from below the grooved area with a rounded hammer. The photograph below shows some of the tools that Jim St. Rose used for grooving surfaces at the University of Manitoba.

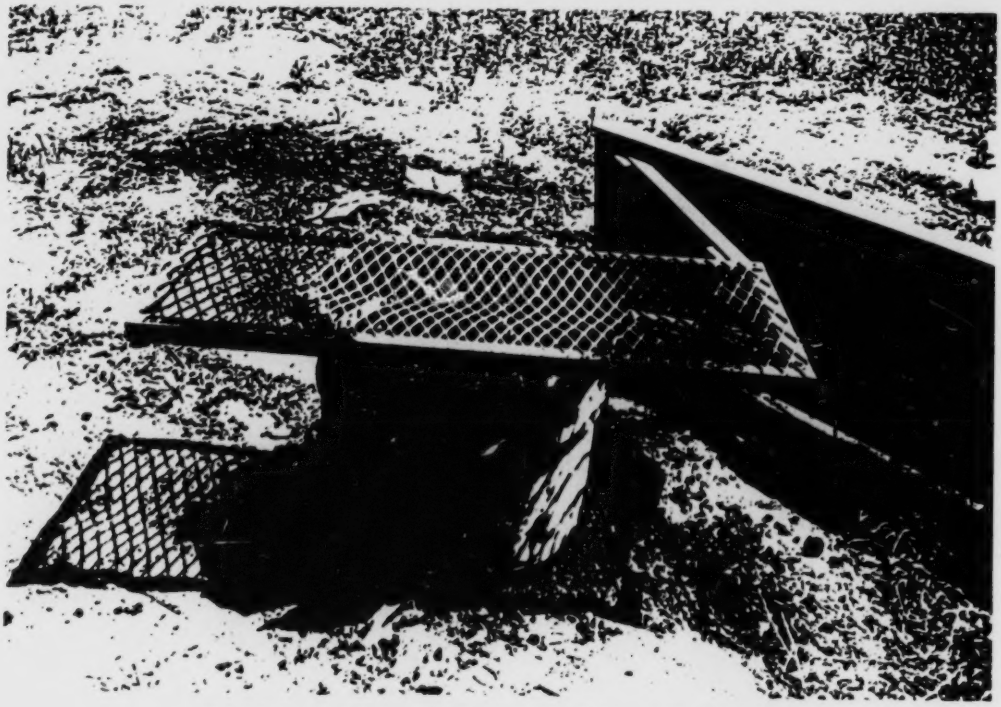


**Tools used by Jim St. Rose**
to groove the notes for a steeldrum.

Stage 4: Tempering

The fourth stage in the sequence of building a steeldrum is called tempering. This process involves hardening the steel through heating and cooling in oil. Richards (1988) explained that steel is an alloy of carbon and ion atoms. As heat is applied, the atoms vibrate more than normal and shift positions. It is apparently this scientific fact that helps to make the instrument respond better to tuning. Tempering improves the tone quality of the instrument as well as makes it stronger and more resilient (Moberg, 1987).

The now cut and grooved barrels are placed in a fire of about 350°F. The higher sounding drums are heated for about



Firing site at University of Manitoba "Panyards" used for tempering the metal surfaces of steeldrums.

thirty minutes, while the lower drums are burned for about forty-five (Prospect, 1978e; Sealey & Malm, 1982). The firing site used at the University of Manitoba "Panyard" is shown in the photograph on the previous page. During heating, the barrels turn a bluish color and experienced pan-makers know when the barrel has been burned appropriately (Peters, 1976). When ready, the barrel is removed from the fire and oil is thrown on the surface to temper and cleanse it. The drum is now prepared for tuning.

Stage 5: Tuning

The next task in the preparation of the instruments is the fine tuning. This craft requires a person with a refined sensibility in pitch discrimination. The pantuner is concerned primarily with producing equally spaced and balanced tones. Satisfaction is often achieved only after many long hours have been spent by a tuner shaping each tonal area. The tools necessary are a precise ear, a subtle tapping touch, an assortment of hammers and sometimes an electronic tuner (Moberg, 1987; Snider, 1986b).

> Andy Narell explained contemporary methods of pantuning:
>
> The way pans are tuned nowadays, they should have a perfect equal temperament. Anybody who isn't using a strobe to make sure that they have equal temperament is in the dark ages of steel pans. Now, as to the way harmonics are tuned, with the overtones on the edges of the notes. Basically

everyone is in agreement that it's necessary to tune octaves on the edges of the notes and add harmonics, not always the fifths and sixths, but thirds and seconds. Get control of the overtones on the edges of the notes, particularly the octaves. (Snider, 1986a, p. 41)

Trinidadian Tuner Jim St. Rose at work using an electronic tuner for fundamental tones and his ear for overtones.

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The photograph on the previous page appeared in the Winnipeg Free Press on May 24, 1988 and shows a Trinidadian tuner Jim St. Rose working at the University of Manitoba Panyard. Richards (1988) recognized him as one of the more famous Trinidadian pantuners of our time.

In the same interview, Andy's brother, Jeff Narell, revealed the secret of quality pantuning. He proposed that when the octave and fifth overtones are brought into the fundamental note it will have a longer, purer sound. It is this particular aural skill that will result in an instrument of high quality. Walley (1988c) confirmed that some tuners can tune the fundamental tones through electronic means, but the overtones must be tuned completely by ear.

A fine tuned cello pan ready for finishing.

A fifth tenor pan tuned by Jim St. Rose.

Those that do not possess the extreme sensitivity required to fine tune particular overtones will produce poor quality instruments with a lot of interference.

A telephone interview with Dr. Walley (1988c) disclosed information about the alternate note patterns used for tuning steeldrums. During his studies in Trinidad, Walley witnessed the existence of a musical debate about the value and standardization of various arrangements. To illustrate, Jeff Narell stated:

> I found that the fifth pans tend to be more balanced, and I think we're leaning in a direction where this is going to be the pattern for that instrument [lead pan] . . . Musically, that



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> arrangement serves to bring the notes "in" in a more consistent and balanced way, so that the whole instrument has a tuning quality that sounds more percussive. (Snider, 1986a, p. 41)

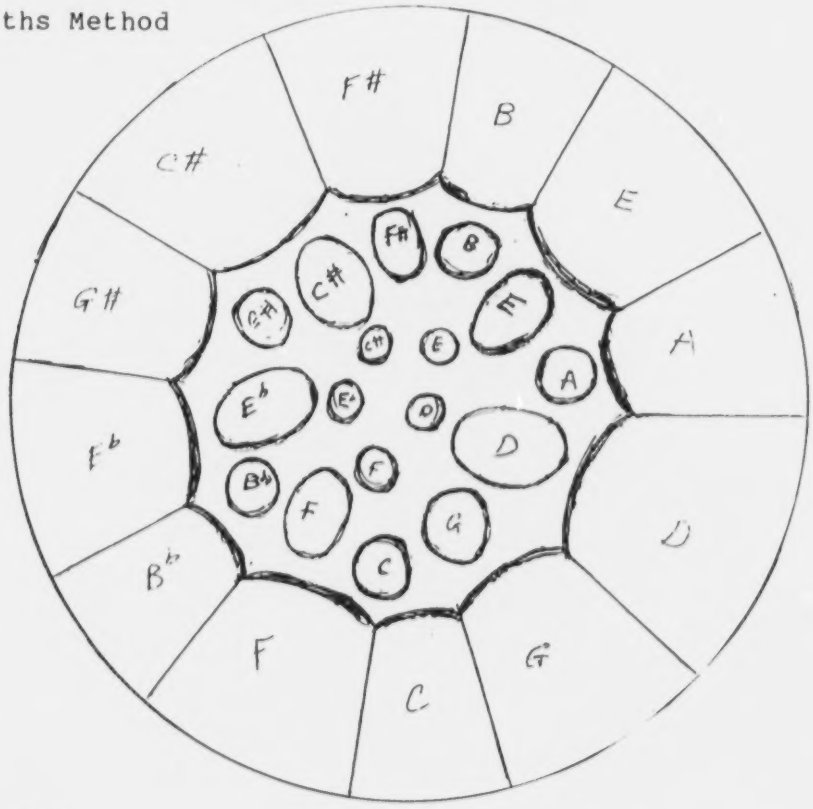
When Narell speaks of fifth pans, he is referring to a tenor pan which is tuned in a circle of fifths. The fifth pan or "spider web" pan was created by pioneer tuner, Williams, who ordered the tones according to an interval of the perfect fifth (Holman, 1988a) in approximately the C above middle C range. Other than the octave tones always occurring in proximal side or inside areas of the surface, the tenor pan is the only instrument that has this kind of pattern to it. While playing this instrument, the researcher soon discovered that if one divided the tuned surface into quarters, playing occurred generally in one corner for each key.

An opportunity to discover the tuning of a University of Manitoba tenor pan verified this method, however Prospect (1978a-b) suggested different patterns in his tutorials. Figure 1 (page 35) gives the reader a comparative top view of these two different tuning arrangements.

The note patterns for tuning other sections of the steelband were worked out by institute participants (Morin, 1988). The results of this activity were checked against those presented by Collins (1988a) and are presented in Figure 2 (page 36). Alternate patterns can be found in Prospect (1978c-h).

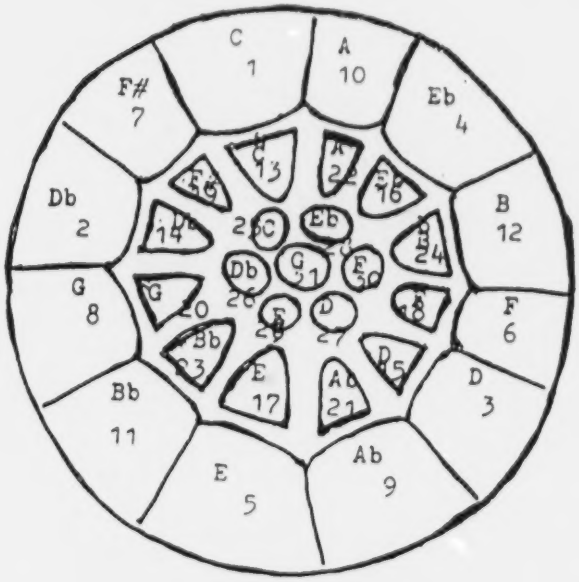
FIGURE 1. A comparative overview of two different methods for arranging notes on lead tenor pans.

Circle of Fifths Method




Prospect's Method

High Tenor




Low Tenor

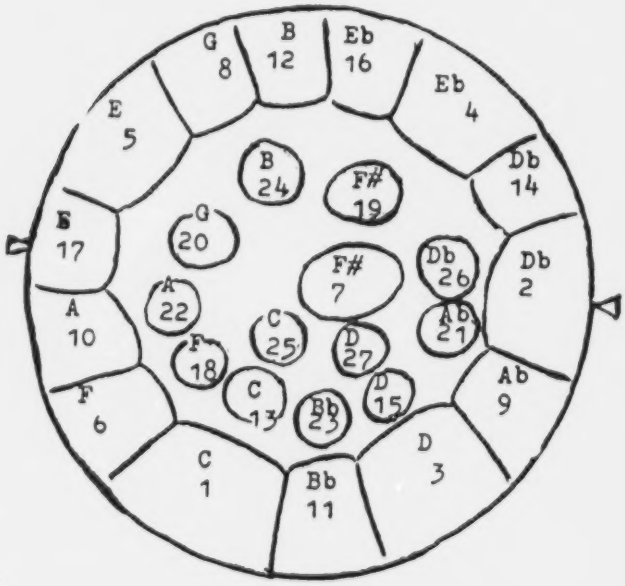





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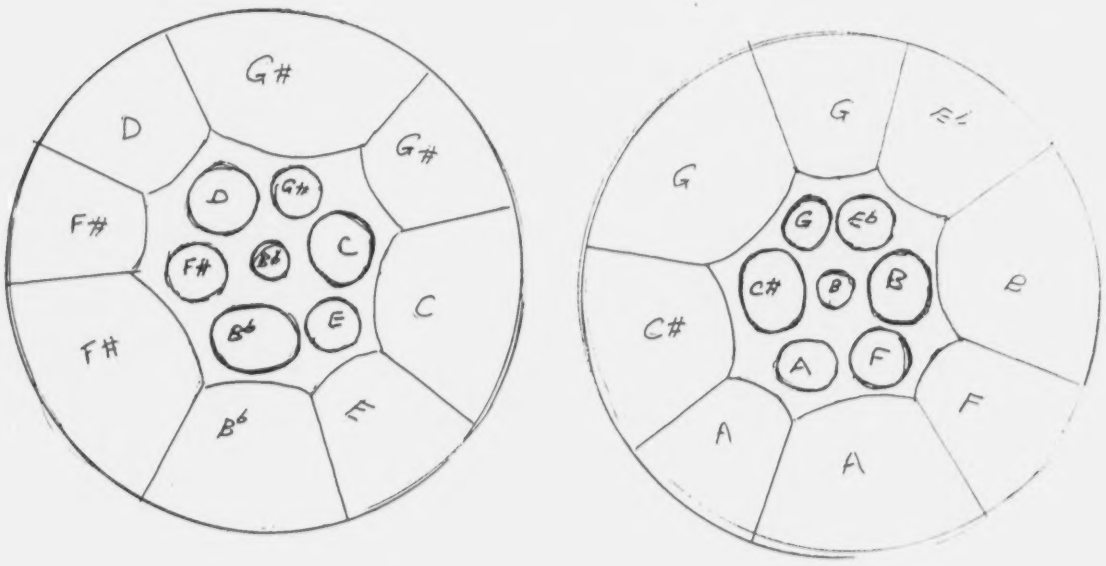
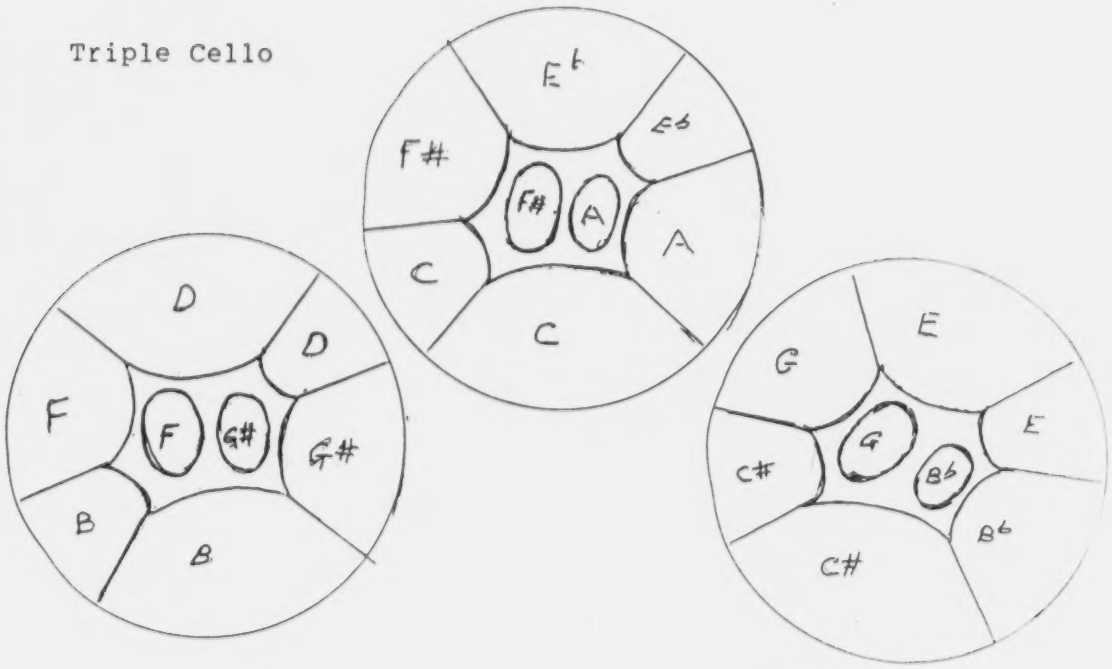
FIGURE 2. Collin's illustrations of note patterns used for tuning sections of the steelband.

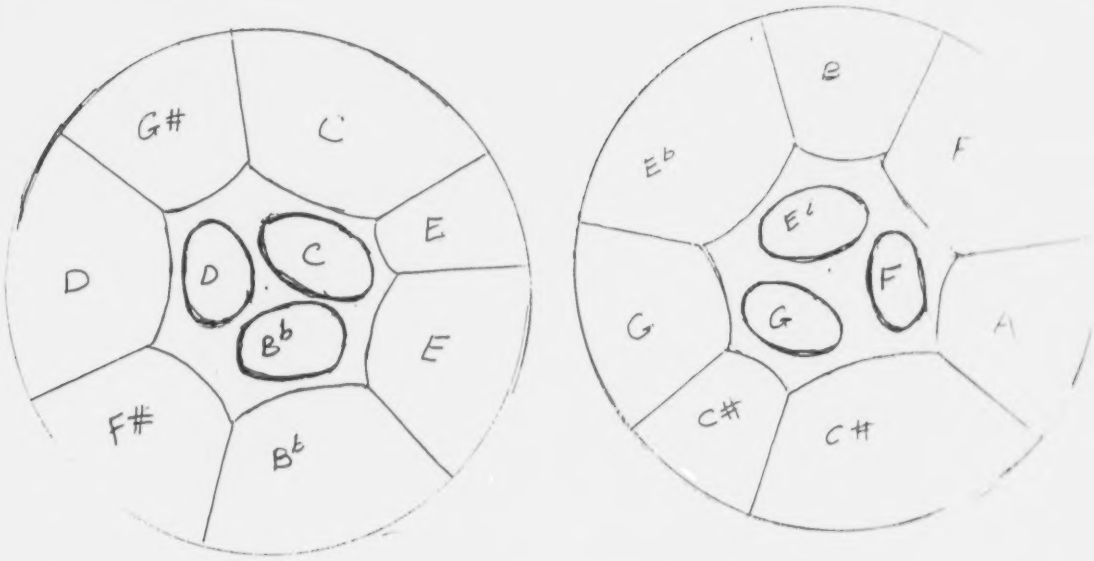
Double Second



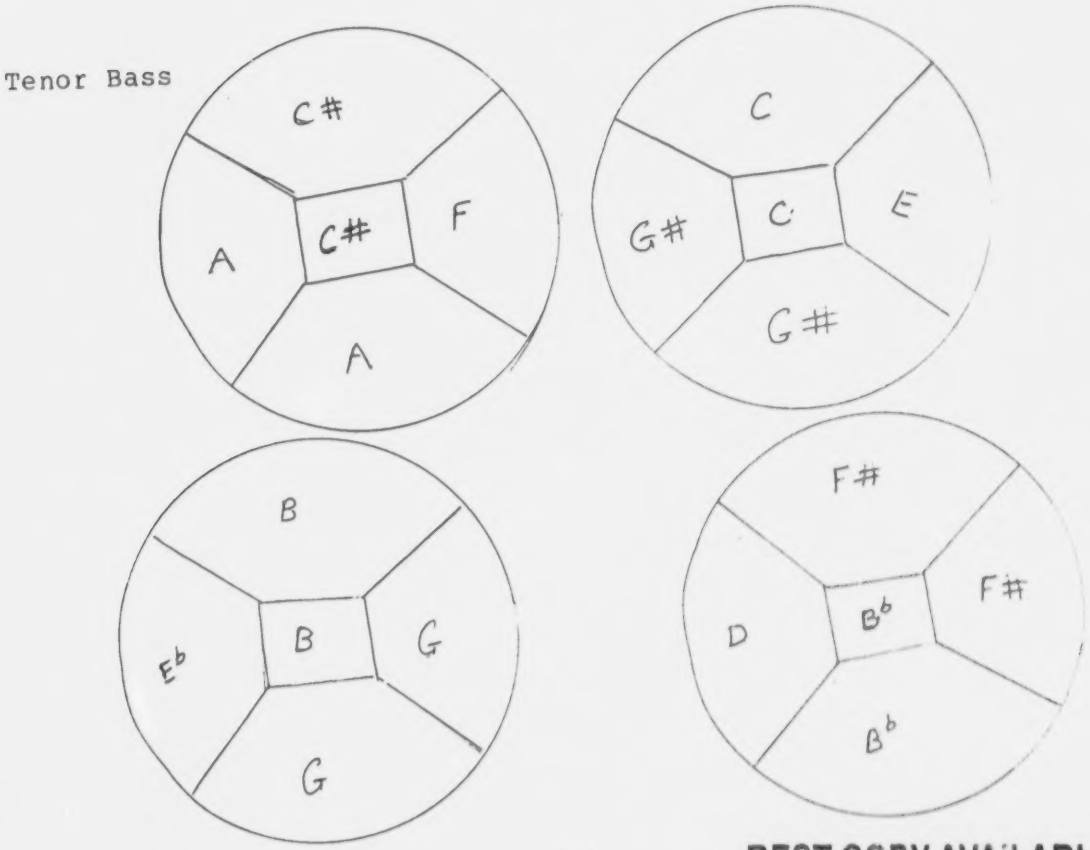

Triple Cello



Double Guitar




Tenor Bass



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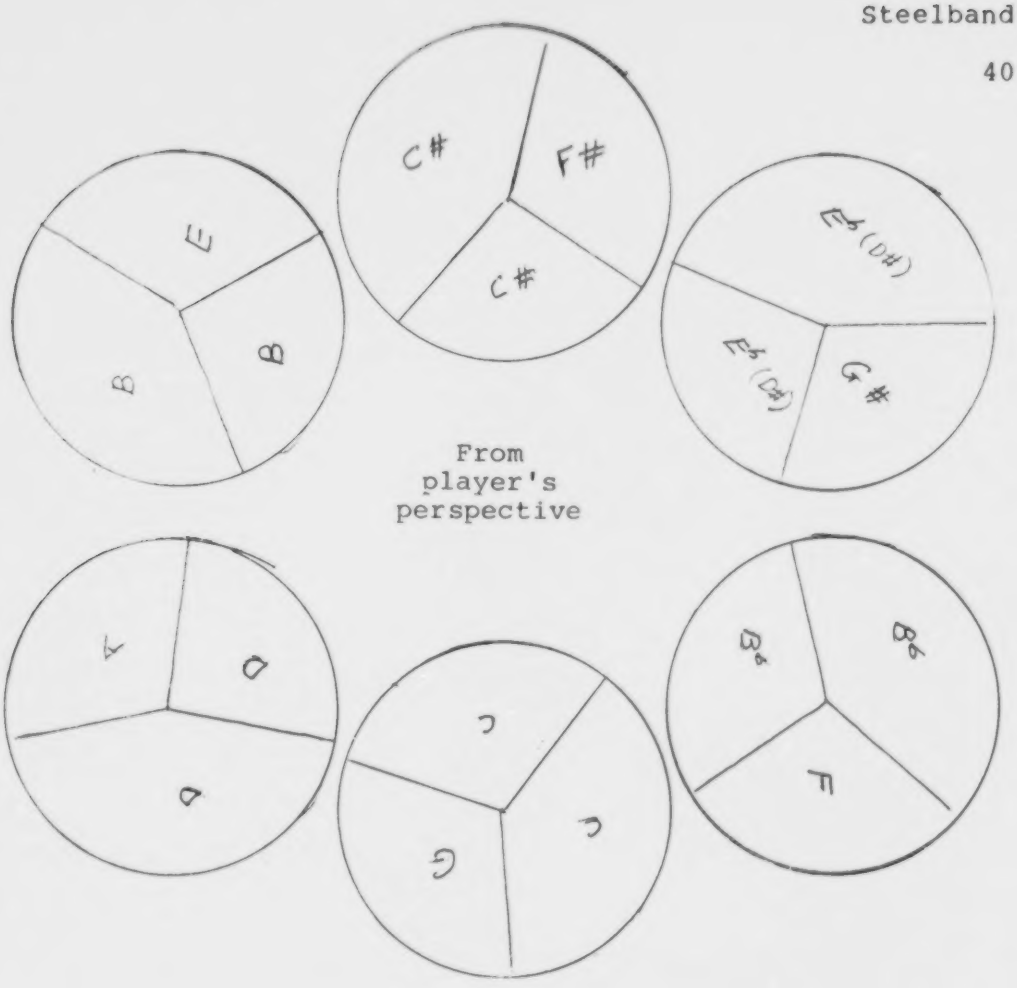


Instructor Ray Holman (1988a) studied the tuning patterns of the instruments prepared for the institute with participants. He pointed out that each of the double second pans, first invented by Mannette, is tuned in whole tones so that semitones occur between pans. To play major scales on double seconds or guitars, participants found that the tonal sequence d-r-m occurred on one pan and f-s-l-t occurred on the other. The guitar follows the same tuning pattern but its range is lower. The double second is tuned in an ascend-

ing fashion from the F sharp below middle C, while the guitar is tuned from an octave below middle C.

Each pan making up the sets for the triple cello and tenor bass consists of the notes belonging to a particular musical chord. The tones of the cello pans are tuned a minor third apart. The four different tones and their octaves on each of the three pans make up the following diminished chords: C - E flat - F sharp - A; C sharp - E - G - B flat; and B - D - F - G sharp. In a similar way, the tones of the tenor or high basses are tuned a major third apart and make up the following augmented triads: C - E - G sharp; F - A - C sharp; G - B - E flat; and B flat - D - F sharp. Both diatonic and chromatic playing require movement from pan to pan. The depth and power of the orchestra was provided by the six low basses tuned in perfect fifths: C - G; D - A; E - B; F sharp - C sharp; G sharp - D sharp; B flat - F.

Stage 6: Finishing and Mounting

The finishing and mounting of a well-tuned steeldrum represents the final phase of the construction process. Finishing the steeldrum can take one of two basic forms. Generally, the high frontline drums are sent away for electroplating or chroming, as was done with the institute instruments (The Chrome Pit, 1988). This process serves both aesthetic and protective purposes (Bush, 1981; Morin, 1988). Because of the cost of chroming the large lower

drums, it is a common practice for Trinidadian steelbandsmen to paint their drums in bright colors (Sealey & Malm, 1982). In keeping with the visual spirit of Carnival, the institute drums were painted yellow and red, compliments of Shell Oil Canada. It must be remembered, however, that unchromed drums will rust from exposure to moisture and need extra special care in rainy weather.

Methods used to mount the instruments allow the drum sounds to carry freely. All sections of the institute band, with the exception of the basses, were suspended at the sides and mounted on metal stands (Morin, 1988). Holes approximately 1/4 inch in diameter were drilled about 1/2 inch into the left and right sides of the playing surface. Circumference measurements taken between these holes averaged 38 inches. A ring of heavy plastic-coated wire was then fastened through the hole and served to attach the drum to the hooks on the metal stands. The photograph (page 43) shows a chromed tenor pan being suspended on a metal stand.

Stands for the low-pitched bass drums were constructed with two pieces of crossed wood about thirty inches in length and covered with thick rubber. Prospect (1978f-h) gave alternate methods for mounting lower instruments. One suggestion required the attachment of legs to the drum using four 4-inch iron spikes tipped with rubber. The other method shared was building four separate blocks of wood padded with rubber that could simply be positioned between the drum and the floor.

Jim St. Rose suspending a tenor pan on a metal stand.

The beaters or playing mallets are always constructed from short wooden sticks. Holman (1988a) explained that less rubber and shorter sticks are required as the instrument to be played becomes higher. The beaters used by the researcher for the high tenor pan were constructed from two 6 1/2 inch lengths of dowel which were one centimeter in diameter. The playing ends were covered with medical surgical tubing. Beaters for double seconds and double tenors were a little longer, slightly wider, and were wrapped with a thicker rubber. Beaters for the lower drums were 10 to 12 inches in length and were fitted with small sponge balls (Morin, 1988).

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Since most steeldrumming is performed out-of-doors, some protection from the weather elements is required. In Trinidad, the bands drape large canopies over a tent-like frame to keep the sun and rain from affecting the instruments (Bush, 1981). This practice also minimizes potential sound loss and keeps the players more shaded and comfortable.

## Concluding Statements

The aim of this section was to identify the various stages in the construction of steeldrums. Panmakers begin by selecting good quality oil barrels and proceed with sinking one end into a saucer shape. The builder cuts down the drum, roughs in the notes by grooving and knocking the surface, and then tempers the metal in a hot fire. Finally, the drum is tuned, applied with a finish, and mounted. A summary of the construction details for each of the University of Manitoba's steelband sections is given in Table 2.

TABLE 2

Summary of Construction Details for Steeldrum Sections

| Steeldrum | Number of Pans | Number of Tones | Body Length | Depth of Playing Surface |
|---|---|---|---|---|
| High Tenor | 1 | 29 | 5 1/2" | 8" |
| Double Tenor | 2 | 28 | 6 1/2" | 7" |
| Double Second | 2 | 30 | 9 1/2" | 7" |
| Guitar | 2 | 20 | 16" | 6 1/2" |
| Triple Cello | 3 | 24 | 24" | 6 1/2" |
| Tenor Bass | 4 | 20 | 34 1/2" | 5" |
| Low Bass | 6 | 16 | 36" | 5" |

Diameter: 23 inches Circumference: 70 inches

Before leaving the discussion of panmaking, it is important to realize that steelbandsmen are a progressive group of artists. Innovation and experiment encouraged through competition and commitment are constantly underway for the purpose of further developing almost every aspect of the preparation of pan (Richards, 1988; Morin, 1988). The present discussion does in no way attempt to address this highly specialized kind of activity.

## Calypso and Steelband: A Stylistic Analysis of the Relationship Between Two Distinct Art Forms

Calypso and steelband are recognized as the traditional musics of Trinidad, indigenous art forms belonging to the two-day festival before Ash Wednesday known as Carnival. Although calypso is distinctly a song form and steelband an instrumental one, there are communal, functional and elemental music links that need to be discerned in an attempt to appreciate the Trinidadian idiom in a more wholistic way.

Calypso as a song or instrumental medium involves a synthesis of the constituent elements of music. Its development as a particular style can be defined in terms of its specific selection, combination and characteristic usage of these elements. An analytical investigation into the stylistic relationships between calypso and steelband as demonstrated in representative works, together with consideration of the socio-cultural milieu in which they evolved, constitutes the subject matter of this section.

### A Record and Reflector of Cultural Life and Thought

A calypso is a topical folksong which fuses melody and lyrical content in a unique and interactive way. These musical commentaries represent the ideas, feelings, opinions, sufferings, aspirations, hopes and fears of the people on a wide range of subject matter. Themes emerge on local, foreign or international levels and might include statements on social justice, man-woman relationships, politics, scandals,

sports, or everyday events (Sealey & Malm, 1982; Hill, 1983; Quevedo, 1983).

The spirit of the calypso message is captured in satire and sarcasm. It is intended to hold up human vices and follies to ridicule and scorn, to expose or discredit in a fun but not vindictive manner (Williams, 1987; Hill, 1983; Trinidad & Tobago Tourist Board, 1987).

The calypso is shared with the people by a calypsonian who examines and analyzes society (Liverpool, 1985). Hill (1983) stated that a calypsonian must be clever, possess a wide vocabulary and have the ability to improvise. Through their melodies and poetic inventions, they edit the Trinidadian way of life (Liverpool, 1987).

Written documents are one but not the only source of historical information. There seems to be little argument that the calypso has also served to record social history in Trinidad (Warner-Lewis, 1986). It is of special significance to this study to note that calypsonians have used their oral ingenuity to chronicle the development of the steeldrum as an instrument (Trotman, 1983).

Just as the calypso echoes in a literary sense, the development of the steeldrum reflects the history of the land in a metaphorical sense. The economic shift from plants to petroleum is parallelled by a change of musical expression from bamboo to oil drum. In the same way that the steelband movement fought for legitimizing its instru-

ment as musical and its members as respectful beings of society, the people fought for social transformation and democracy (Trotman, 1983).

Calypso melodies encompass a large part of the repertoire of the steelband. This is most apparent during steelband competitions and festivals when a calypso tune must be selected and arranged as a test piece (Trinidad & Tobago Tourist Board, 1984). Dr. Walley (1988a) explained that in preparation for Carnival, steelbandsmen tail the popular calypsonians and attempt to choose a winning song. During a Panorama competition, the people will initially hear a recording of the calypso sung by the calypsonian. The words are printed in brochures so that the audience can sing and dance along with the performance. The calypso is then played by a steelband and further experienced by the people through this alternate medium.

The idea that the same calypso would be presented together first in a vocal form and then instrumentally was an interesting finding. The researcher's original proposition was that since the lyrics were removed in a steelband rendition of a calypso, the message of important happenings would be lost. Dr. Walley (1988a) pointed out, however, that the lyrics are known and are never really divorced from the minds of the people. In fact, Liverpool (1986) reported that ideas were further spread by steelbandsmen who painted words and phrases of calypsos on their jerseys and in their

panyards. There seems to be, then, a kind of referential exchange that takes place between the listener, the lyrics and the instruments. This process served to verify a more intimate connection between the two art forms.

Communal Signification

Gift (1985) proposed that art forms consist of the creative expressions of successive generations as they respond to stimuli in their environments in their attempts to survive and evolve into a civilization. The foundation for growth of calypso and steelband rested upon such a struggle for survival in the people's common goal to build an identity and new life amidst the social unrest which characterized the process from slavery and colonialism to democracy. Trotman (1983) illustrated:

> The steelband is but one example of the creativity born out of necessity and fuelled by deprivation and eclectic socio-economic exclusion. The irony of all this is that the steelpan is a musical instrument created from discarded containers for petroleum, the lubricant of the modern world, by a people who had contributed so much to the creation of that modern world and had received so little from it and had been left for so long in its backwaters. (p. 8).

Sealey and Malm (1982) pointed out that Caribbean music is used as a way of showing that you belong to a certain group.

It served to combat alienation by offering the people a sense of identity and community.

It is not surprising in light of such beginnings to find that unity, participation and togetherness are still the primary operational principles behind Carnival (LeGendre, 1976) today. The preparation of this magnificent event in such a short time by such small numbers requires a truly magnetic attitude. Planners, calypsonians, tuners, arrangers, and steeldrummers join in a collective effort with a level of dedication and involvement not easily matched elsewhere in the world. Quevedo (1983) hailed "together with its twin sisters, carnival and steelband, kaiso [calypso] is destined to grow into that firm social bond, eventually becoming the cultural cohesive force that will hold the farflung West Indian peoples together in close community" (p. 113). This prediction attests to the communal signification of both calypso and steelband to the Caribbean people.

Functional Signification

In order to survive as a culture there is a requisite necessity to fulfill the basic needs of the people who make up that society. Some of these conditions include: avenues for sharing with others; developing a sense of accomplishment or achievement; providing opportunities to develop skills; providing opportunities for contributing to others; establishing a gained respect from others; and simply needing to make music. This researcher suggests that calypso and steelband

function in significant ways as they address the fundamental needs of a particular group of people.

Calypso and steelband are unique modes of aesthetic expression through which the world of the Trinidadian people becomes intelligible to them. These modes allow people to communicate meanings and ideas not possible through ordinary means (Walley, 1988a). Developed by the people for the people, calypso and steelband become among the options available for sharing feelings of sadness or joy (Sealey & Malm, 1982).

Calypsonians and steelbandsmen are often uneducated and musically untrained but they work in a steadfast manner several long hours to master their performances (Morin, 1988). They consistently bring their developed skills and talents to others and clearly demonstrate a superior capacity for sustained effort. The musical objects these artists offer at events such as Carnival represent the Trinidadian contribution to society, their sense of accomplishment as a culture. And for most panmen and calypsonians, there is no financial reward. The only pay-off is the personal satisfaction of artistic generosity as it brings joy to others. LeGendre (1976) describes the nature of world respect and cultural achievement in Trinidad:

> We have a tradition in cultural heritage that is based on a solid feeling of togetherness where people of simple means -- and not intellectuals,

> as some people may think in this so-called world of intellectuals, yet their performance as musicians by way of the music they produce from pans, coupled with the high sense of technology produced from simple oil drums so tuned by our Pan Tuners, that they give a sound of music never heard before, what some strangers term as a simple pan giving music, startles and mystifies many who come into contact for the first time with our Steelbands. (p. 8)

Walley (1988a) found during an ethnomusicological study in Trinidad that both calypso and steeldrumming are expressions of people who are powerless but assume power through these same musical forms. The validity of this idea becomes apparent if one reflects on the evolution of these forms.

Liverpool (1985) reported that early calypsonians seemed to have had special powers to sway, control and influence people around them including slave masters. Because they were believed to be protectors who could also harm, they were quickly feared. After slavery ended, the strength and power of the calypso increased even more. The deliverers of these vocal viewpoints were seen as among the most important men in society. In a similar way, drumming was feared and revered by authorities because they believed this practice held great communicative powers for the people. It was thought that a kind of people's rebellion could be established through art



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forms like calypso and drumming. In the end, however, strategies to oppress the progress of these new musical idioms were not successful. During a newspaper article interview (Moberg, 1987), Walley extrapolates the source of this power, the people's need to make music.

In addition, there seems to be some therapeutic functions related to calypso and steelband as a multi-Carnival art. First, LeGendre (1976) suggested that Carnival activities serve as a kind of recreational release for the people of Trinidad. Second, the steelband movement has been an often unrecognized school of discipline for many Trinidadian youths (Walley, 1988b). There is much dedication and focused effort required for participation in any ensemble (Trotman, 1983). And finally, the indigenous musical forms of Trinidad have given many unemployed and uneducated people a channel for constructive effort and activity. In a very tribal sense, musical institutions appear to offer support when others failed to make this necessary provision for its members. It is for this reason that Trotman identified steelband as the major socializing agency for Trinidadian youth.

The Temporal Element

Calypso, as do all musical styles, exists within a timed mathematical framework. In studying the temporal element in the calypso it was necessary to examine the characteristic uses of beat, accent, meter, sound durations and rhythmic pattern. In addition to a literature search for information, the

temporal structure of ten authentic calypsos was analyzed. Course experiences served to check and supplement the information gathered. Since Raymond Quevedo, better known as the calypsonian Atilla the Hun, was seven times acknowledged as the calypso king of Trinidad, his songs were selected for review. An extremely useful collection can be found in an appendix of Quevedo's (1983) book on the history of Trinidad calypso.

Calypso musicians have an extraordinary sense of pulse which is sometimes referred to as the African metronome (Morin, 1988). Just like the Africans set a timeline on an iron bell, Trinidadians pound out the beat with a spike on a brakedrum or an alternative sound source. Musicians learning to appreciate calypso rhythms must make a concentrated effort to follow and keep this pulse because it becomes the foundation upon which more complex rhythms are layered.

The fundamental beats of the calypsos reviewed were organized in a quadruple meter, however, duple meters are also used (Quevedo, 1983). The establishment of meter within the mind of the listener, however, comes from an accurate perception of accent. In calypso, the researcher found that the accents are not always apparent on the first and third beats of a regular quadruple meter. If one thinks of the calypso as moving along in rapid recurring pulses of eight, the accents seem organized in groups of three and two. The following examples are common in calypso:

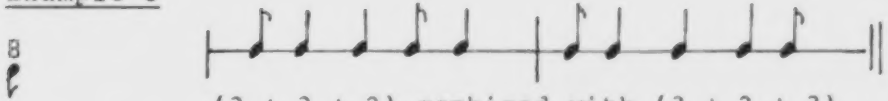
Example 1

3 + 2 + 3

Example 2

3 + 3 + 2

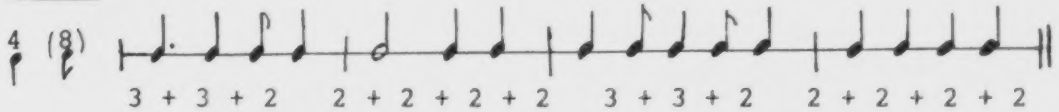
Example 3



(3 + 3 + 2) combined with (3 + 2 + 3)

The writer would argue that the Western concept and method of notating meter signatures is not really accurate in the case of calypso. The accent and, therefore, the feel for meter, changes and shifts throughout. Example 4 demonstrates this typical alteration from a simple to compound division of the beat:

Example 4



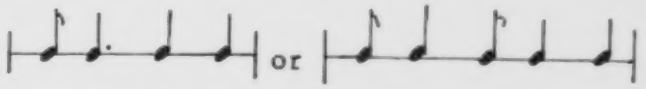
3 + 3 + 2  2 + 2 + 2 + 2  3 + 3 + 2  2 + 2 + 2 + 2

Again it must be stressed that conventional notation systems do not always do justice to the calypso performance. While listening to a recording of Ray Holman's steeldrum arrangement of "My Band" presented during the institute, it was heard that there was a tendency to play slightly off the beat at all times (Morin, 1988). Percussionists call this practice "pushing the beat" which serves to create a sense of excitement. This playing range within the duration of the

beat creates particular stylistic moods that can be perceived by a calypso listener but cannot be read effectively from notation. It was the feel for this kind of rhythmic phrasing that the researcher found so difficult to learn to play. It seems as though the Trinidadian musician's sense of time is very different from Western musician's.

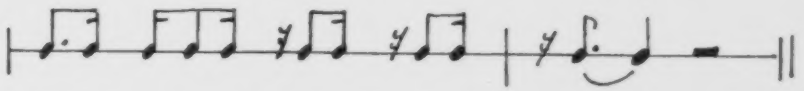
Many experts agree on the extensive use of syncopation in calypso (Miller, 1986; Warner-Lewis, 1986; Gibson, 1986b). Quevedo (1983) defines this traditional addiction as the half tone or "the shortening of one antecedent note and the prolongation of the subsequent" (p. 3). Syncopation achieved through this use of agogic accents (longer notes on the second beats) is shown in Example 5.

Example 5




Another type of syncopation common to the calypso is use of rests on the first part of the beat as in Example 6. Gibson (1986b) explained that offsetting rhythms in this manner for steelband is simply an offshoot of the vocal calypso style.

Example 6



Quevedo (1983) stated that the original calypso drum accompaniments influenced the use of displaced accents as singers tried to synchronize words in time with drummers. Performing these difficult rhythms vocally or instrumentally

in a smooth, floating kind of way is the sign of an accomplished performer (Gibson, 1986b).

The rhythms of the calypso employ sounds of various durations. The note lengths used most frequently in a piece include ♪, ♩, ♩., 𝅗𝅥 and more sparsely 𝅘𝅥𝅯., 𝅘𝅥𝅯, and 𝅝. Rhythm patterns are generally uneven as a result of alternating long and short durations as in Example 7.

Example 7

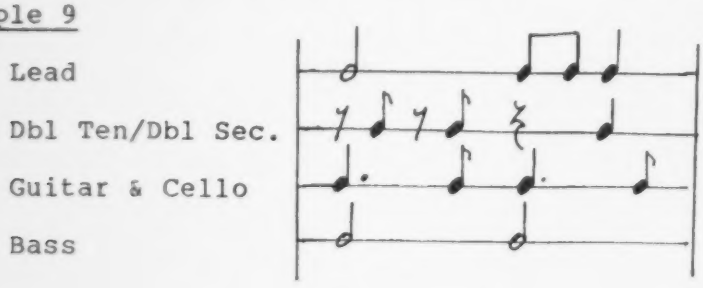
It is also quite common for uneven rhythmic figures to be alternated with more even ones. Example 8 shows this rhythmic tendency in calypso.

Example 8

(even) (uneven)

Elder (1985) and Miller (1986) also pointed out the use of polyrhythms in calypso music. This is particularly evident in the arrangements for steelbands where various voicings of pan are layered simultaneously with different rhythm patterns. The polyrhythms shown in Example 9 were drawn from an arrangement in Miller's article.

Example 9



It should be mentioned that the tempo of most calypsos is rather quick (Warner-Lewis, 1986) so rhythms can be difficult to execute. While comparing calypso performance practices from various regions, Quevedo (1983) also noted that Trinidadian rhythms were more flexible (rubato) and more uneven in general than calypsos from Jamaica or Barbados.

To recapitulate, it seems quite clear that the temporal element in calypso is quite prominent. These rhythms are notated as simple duple or quadruple meters but are often felt as compound triple and simple duple combinations. The metrical feel changes throughout and the rhythm patterns within are inconsistent with considerable change and variety. There is some room for flexibility in the performance of quite fast, complex rhythms in often polyrhythmic settings.

The Tonal Element

For the purposes of this discussion, the tonal element shall be considered separately, although in the calypso it is fused with the temporal element. It must be kept in mind that it is this combination of pitch and rhythm that constitutes melody in the truest and most meaningful sense. Calypso melodies can be sung or played by lead instruments of the steelband, usually the high or double tenors.

The musical distance between two successive pitches is called a melodic interval. The smallest interval used in calypso is the minor second or semi-tone. In her analysis of calypsos, Warner-Lewis (1986) found that the main intervals

used were minor thirds and major seconds, with occasional usage of major thirds, minor seconds and perfect fourths. An examination of three of Atilla's calypsos in Quevedo (1983) revealed similar results, however it seems that seconds and thirds of both qualities are frequently used. Perfect fourths were found less often and a minor seventh was employed in one of these selections.

In writing about the African influences on Trinidadian calypso, Warner-Lewis (1986) stated that, like yoruba chants, calypsos are generally based on the natural minor scale and less often on the harmonic minor with the sixth missing. Similarly, Quevedo (1983) reported that earlier calypsos followed an oratorical pattern and were most often sung in minor keys. He identified Cheifton Douglas as the first calypsonian to embrace the use of the major scale. Elder (1985) added that the pentatonic character of African melodies has been retained in calypsos.

In an effort to verify these propositions the writer searched through a personal collection of ethnic songs in an effort to find some labelled "calypso". An analysis of the calypso section in the North American publication by Landeck (1961) revealed the following:

| Calypso | Scale |
|---|---|
| Tinalayo | C major |
| Cordelia Brown | $E^b$ major |
| Water Come A Me Eye | C extended major pentatonic |

| | |
|---|---|
| Builders Work Song | A major |
| Linstead Market | C extended major pentatonic |
| Day, Dah Light | G major |

It was surprising to find that all six melodies were written in major tonalities. Additional scanning through a British collection by Conolly, Cameron and Singham (1981) showed that one of the calypsos reviewed above might have been mislabelled. In this second source, "Water Come A Me Eye" was identified as a mento which functions much like a calypso but the melodies have a more European flavor. Sealey and Malm (1982) further attested to the influx of European vocal music through the church songs. This information would account for the emphasis on usage of the major scale but led the writer to believe that the North American source might be of questionable authority. It was decided to further analyze the two songs labelled calypso in the British source. Perhaps coincidentally, these two songs were also written in major keys.

It seemed curious to find only instances of major melodies when minor keys were supposed to be more common. To compound this problem, a passing comment from Walley (1988a) suggested that calypsos were quite modal. A final analysis of five of Atilla's melodies in Quevedo (1983) resulted in this way:

| Calypso | Scale |
|---|---|
| West Indian Rhythm | F major |
| Ja Ja Romey | A phrygian |

| | |
|---|---|
| En Bas Pons Marabella | F major |
| Bakeway | $E^b$ extended major pentatonic |
| Congo Bara | C aeolian |

This list contains melodies representing the major, natural minor, and modal categories. A true pentatonic melody was not found in any of the melodies reviewed. It does seem, however, that the scale patterns for calypsos are quite all encompassing.

Differences in the type of scale selected for a calypso might depend on the song's emotive and thematic function. In the examples given above, major scales were used for more positive, brighter songs. The aeolian is the pure minor which sounds more plaintain and was used in a piece with more negative content. The phrygian was used similarly and sounds much like the aeolian with a lowered second degree.

Another basic distinction can be made about the melodies of calypsos. All compositions reviewed employed primarily diatonic writing which gives the melodies a simple and stable nature. Two of the thirteen melodies analyzed made occasional use of an altered tone not belonging to the scale. These tones, however, did not disturb the basic key feeling.

Calypso melodies played by steelbands modulate as an arranging technique (Gibson, 1986b). Some simple arrangements, like those used in the summer institute, may have no modulation at all; that is, they remain in the same key

throughout. Most would have some modulation occurring at specific points of the predetermined sequential form. Highly skilled arrangers would likely use more extensive modulation techniques with more frequent key changes. A moderate amount of modulation occurring to related keys could be discerned while listening to recordings of steel band calypso arrangements (Caraibe, 1984; Starlight, Sherzacto, Despers & Tokyo, 1988). Repeated listening failed to bring any modulation to distant tonalities to this listener's ear.

Using the same notated sources mentioned previously, it was found that the pitch progression of smaller melodic fragments usually progressed in a conjunct fashion, mostly by major and minor seconds. Fragments that displayed a combination of conjunct and disjunct motion were also very common. Melodies that moved mostly by intervals larger than a major second seemed quite rare, however, a few patterns were found that emphasized the interval of a third.

Calypsos generally displayed a balance between ascending, descending and stationary melodic directions. In some melodies, there was a tendency to remain for some time on the same pitch level. This is perhaps a clear distinction between calypso and other folksong melodies.

All the calypso melodies reviewed had their own unique contours. Many could be characterized by gentle fluctuation around the starting tone which is most often the tonic or dominant (Warner-Lewis, 1986). The writer noted the use of

the third as a starting pitch as well. The location of the greatest tension in the melody also varied, but some calypsos have an arched contour with the climax in the middle. This highlight is often emphasized by the repetition of the highest note. Not all melodies reviewed had clearly recognizable climaxes. Sometimes no particular tone stood out as a special point of interest.

The final melodic concept to be analyzed was the range of calypso melodies. In most of the songs reviewed, the range between the highest and lowest tones were between a major sixth and a major tenth. This can be considered quite average for folksong forms. When melodies are arranged for steelband, however, the range of notes used encompasses almost five chromatic octaves (Trinidad & Tobago Tourist Board, 1984). Prospect (1978a-h) notated the range of each of the seven sections of a steelband. Upon review of these ranges it can be noted that the melodic repertoire of the steelband can extend far beyond the calypso to include any type of music, even the most intricate classical works.

The tonal element of calypso is probably of equal prominence to the temporal. The main intervals used in calypso melodies are seconds and thirds. Tonalities included major, pentatonic, minor and modal patterns employed in characteristically diatonic ways. Modulation is most apparent in steelband arrangements of calypso. The direction of pitch fragments were generally mixed. Conjunct and mixed progres-

sions are very common to the calypso. The climax of a calypso melody was most often indefinite, but at times could be discerned in the middle. The melodic contour is generally undulating within very average ranges. The instrumental range of the steelband orchestra was found to embody approximately five chromatic octaves.

The Textural Element

The relationship between the simultaneous sounds in calypso refers to its musical texture. This section is concerned primarily with aspects of the homophonic and polyphonic textures used by calypsonians and steelbandsmen. In addition to analyzing the harmonics of the same notated and cassette recorded calypsos used in the tonal section, two articles containing steelband arrangements were studied (Gibson, 1986b; Miller, 1986).

It is quite common among Western musicians to assume that the I, IV, and V chords alone make up the harmonic content of the calypso. Today, this simple harmonic arrangement might be quite true for other Caribbean musics such as reggae, but calypso arrangements are quite the contrary (Liverpool, 1986; Gibson, 1986b). In a journal article, O'Conner (1981b) stated "jazz chords, classical harmonies, counterpoint, and voicings will all work in a Calypso arrangement" (p. 56).

The harmonic tension of calypsos can be classified as quite consonant as most melodies are harmonized with major and minor triads. In addition, the use of mildly dissonant chords

such as seventh chords can be found quite frequently. Diminished and augmented chords would also be used in various modulation plans by steelband arrangers (Gibson, 1986b; Holman, 1988c).

If one examines the relationship between the chord roots, calypso harmonies progress most often by fourths or fifths and much less by seconds or thirds. The harmonic rhythm can be described as moderate to fast because chord changes occur almost every measure and sometimes two or three times within the same measure. The method of harmonization by steelband arrangers would definitely be additive. They begin with a calypso melody and add other chords or melodic lines to it (Miller, 1986; Gibson, 1986b). Calypsonians could work in this manner or could begin with an appealing series of chords and derive a melody from these.

Calypsos are best harmonized by regarding the more prominent notes of the melody as chord tones and other notes as non-harmonic notes. The tonic triad is usually used first, last and most frequently in a calypso chord progression. The V or $V^7$ are the second most frequently used chords. The subdominant (IV) or ii usually goes to V, then to I or directly to I. The vi chord usually progresses to IV or ii, then to V or $V^7$, and then to the tonic. No examples were found with harmonic progressions employing the iii chord.

Calypso music often displays elements of both polyphonic and homophonic textures. The melody usually moves in

parallel octaves between the high tenor and double tenor (low) pan. This is a non-traditional western practice that acts to reinforce the melody. A harmony line is often added between the octave doubling of the melody. To accomplish this, a tenor line is written in parallel motion of a sixth or third from the melody, but deviates at times (Gibson, 1986b).

The harmony is largely defined and sustained by the double seconds, guitars and cello pans. A homophonic texture is created through the use of strumming patterns. Miller (1986) defines the strum as a repetitive rhythmic pattern on two notes of the harmony which functions like a rhythm guitar in a band. The strum can be used in both upper (double tenors and seconds) and lower pans (guitars and cello). Gibson (1986b) explained that traditionally the higher pans play the thirds, sevenths and other color chord tones, while the lower pans play the roots and fifths. The bass pans play primarily root and fifth patterns on a quarter note rhythm. In Trinidad, bass players double all of the notes in octaves where range allows and sometimes the guitars and cellos will reinforce the bass line while strumming.

Different types of accompaniments were apparent in the calypsos listened to, played and reviewed. Two-note block chords are used in a variety of strumming patterns. Broken chord accompaniments can be discerned with some use of sus-

tained chords. Arrangements seem to include a combination of accompaniment types.

An analysis of the polyphonic texture focused on rhythmic activity, the melodic relationship of the various melodies, number of parts and melodic spacing (Morin, 1988).

The rhythmic activity between doubled lines is obviously identical. Sometimes the strumming patterns are played on different chord tones but the rhythms are the same. Usually these lines have equivalent but not identical rhythmic activity. The rhythm of the melody is usually most active and varied while the bass line is least prominent. For contrast and variation, rhythmic prominence might alternate between pans.

The texture of a calypso steelband can be quite thick. The seven sections of instruments are capable of playing fourteen notes at the same time, however one rarely hears more than eight. Melodies are usually written above all other parts, but can move to other voices for variation. Contrasting polyphonic melodies could be heard, but no imitative techniques could be discerned. The spacing of parts is very typical, remaining about an octave to a double octave apart. It is difficult to comment much on the use of counterpoint as a technique in writing polyphonic textures because not enough representative material could be analyzed.

The textural element of the calypso can be characterized by consonance and at times mild dissonance. The harmony pro-

gresses quickly most often by fourths and fifths in ways that the Western musician expects. The method of harmonization employed by the pan arrangers would be additive and demonstrates both homophonic and polyphonic qualities. Although somewhat mixed, pitch motion is often parallel and the rhythms used are identical or equal. Combined accompaniment types can be found in the same arrangement.

The Formal Element

The term form as applied to music denotes both general structural principles and specific schematic designs. In this section, both the overall structure of calypso as a song form and as an instrumental form shall be discussed.

Liverpool (1985) outlined the historical development of the calypso song form. The earliest calypsos took the form of call and response, as the first calypsonians chanted and the chorus answered. Towards 1900 the structure of calypso changed to a form called the single tone by the Trinidadians. The basic verse consisted mainly of four melodic lines that were often sung in an antiphonal manner. Sometimes the entire stanza would be sung by the calypsonian and the final line was repeated by the chorus. Quevedo (1983) explained that the lyrical style of these were epigrammatic and often suggestive of a theme. The following examples of single tone calypsos were taken from Liverpool:

Nettie Mettie

Gie'me the ting that hou have in yuh belly,

Gie me the ting you have in yuh belly

Doctor says is a new born baby

- - - or - - -

Take me Take me

I am feeling lonely

Take me down to Los Iros

and don't let me mama know. (p. 22)

By the 1930's calypso changed from the single tone to the double tone which was an eight-line stanza. This form suited those calypsonians who wanted to tell more in their songs. Quevedo (1983) characterized the double tone as a rhetorical form which offered a vehicle for a coherent, programmatic presentation of ideas. The double tone also gave singers the opportunity to show that they had mastered the English language.

A double tone calypso written by Attila the Hun in the 1930's captures the spirit of kaiso music:

A section (verse)

This West Indian music is bewitching,

And it's fascinating.

No matter what you do

It will surely get you.

It is so captivating

Throbbing and absorbing,

This aboriginal melody

Will drive you crazy.

B section (chorus)

When the tambour bamboo you hear,
No swing band can ever compare,
When you've heard this sweet refrain,
This pulsating rhythmic melody,
You won't go home again.

(Quevedo, 1983, p. 3)

The schematic design of an instrumental calypso can be identified as theme and variations. This sequential form is simply an extension of the binary nature of the song form. Gibson (1986b) wrote that a calypso generally consists of two (sometimes three) repeated sections: AABB(CC). Calypsos composed by Ray Holman for the institute band followed this structure.

Variation forms consist of an opening statement of a theme. In a calypso arrangement the AABB form is used as the theme and is usually followed by several sections in which certain elements are repeated substantially without change (ie. harmony or melody), while other elements (ie. texture or rhythm) are varied: $A^1A^1B^1B^1A^2A^2B^2B^2$, etc. Holman (1988c) and Gibson (1986b) pointed out that steeldrum arrangers will not necessarily repeat every section in each variation. It is possible to order a calypso like this: $A^1A^1B^1BA^2B^2A^2B^3B$, etc.

In Trinidad, calypso instrumental forms are completed by adding an extended introduction before the theme, a recapitu-

lation after the variations (development), and an extended coda (Gibson, 1986b). Listening to steelband arrangements performed by Caraibe (1984), Starlight, Sherzacto, Despers and Tokyo (1988) and noting forms of calypso arrangements in videos shown in class (Morin, 1988), served to clarify this sequence further. Examples of simple schemes were taken from Holman's arrangements for beginning bands and more complex schemes were given by Gibson.

Simple: AABAABAAB or

Introduction AABBAABB Coda

Complex: Introduction AABB (modulation) $A^1A^1B^2B^2$ (modulate back) AB Coda or

Introduction AABBA1A1BB1 (modulation) $A^2A^2B^2A^3B^3B$ $A^4A^5$ (modulate back) BA Coda.

(p. 45)

The formal element of calypso songs contain regular sections of four or eight phrases. The binary sequential form AABB is extended to a theme and variation form in the instrumental calypso form. The compositional principles emphasized in this ethnic style are repetition, contrast and variation.

The Expressive Element

The basic accompaniment for a calypsonian is not usually a steelband. The connection between the two art forms is essentially one of borrowing calypso melodies, arranging them for steel band, and playing these tunes at Carnival and fes-

tivals (Quevedo, 1983; Walley, 1988a). The purpose of this section is to bring together for the reader some information about the expressive aspects of steeldrumming. These sub-elements shall include timbre, dynamics and tempo.

The steeldrum is classified as a pitched percussion idiophone or struck idiophone (Diagram Group, 1976). They are traditionally constructed by hand from steel oil barrels and are struck with beaters fitted with sponge-rubber balls or wrapped with rubber. The sounds these instruments produce are quite unique. Peters (1976) stated:

> Trimmed with a hacksaw and tuned with a sledge-hammer, the oil barrel produced a fragile, muted, bell-like tone. Sometimes it is compared to the tone of the marimba or a Hawaiian guitar, but most people feel the haunting sound like no other music.

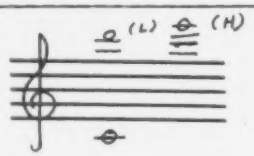
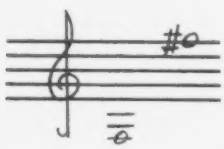
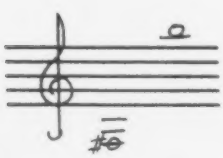
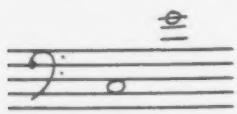
Bush (1981) found the sound of the steelband to be not unlike a huge organ. The writer shared this sonorous analogy after hearing classical Bach arranged for pan. Landeck (1961), on the other hand, described the sound as exciting and cacophonous.

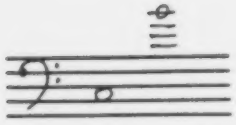
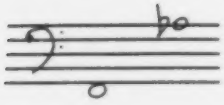
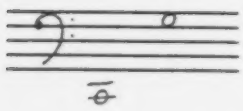
Snider (1986a) characterized the steeldrum generally as producing an electric sound but qualified this by stating that each different member of the orchestra produces its own color and thereby fulfills a particular purpose. It is important to note as well that individual instruments within the

same section can have a slightly different quality simply because they are handcrafted. Table 3 compares the instruments of the steelband with those of other musical ensembles. The function of each instrument of the steelband is relative to those listed horizontally (Prospect, 1978a-h; Prospect, 1986). Readers should note that the ranges are approximations and change according to the particular note patterns employed by various tuners.

TABLE 3

Comparative Instrumentation

| Steelband | Range | Orchestra | Brass/Wind | Voice |
|---|---|---|---|---|
| High & Low Tenor |  | First violin | Solo clarinet | Soprano |
| Double Tenors |  | Second violin | Second clarinet | Alto |
| Double Second |  | Violas | Third clarinet | Contralto/ tenor |
| Cello |  | Cello | French horn | Tenor/ baritone |

| | | | |
|---|---|---|---|
| Guitar |  | Cello | French horn | Tenor/ baritone |
| Tenor bass |  | Cello | $E^b$ tuba | Baritone/ bass |
| Low bass |  | Double bass | Bass $B^b$ tuba | Bass |

---

The steelband also employs a rhythm section of both conventional and non-conventional unpitched percussion instruments. Ray Holman used congo drums, a conventional drum set and a variety of Latin percussion instruments to accompany the institute steelband. LeGendre (1976) stated that tumbas, cowbells, drums and cymbals are used. He also mentioned iron-men, which the researcher assumed to be the players of metal objects such as hub cabs. A review of photographs in a Trinidadian brochure published by the Trinidad and Tobago Tourist Board (1984) revealed the use of long spikes as a beating device. Richards (1988) further explained that the iron instrument was labelled to him by a mechanic as the locking ring of the rim of a truck wheel. Hitting this object with a piece of straight iron rod produces a ringing sound.

During a class video, the researcher also noted the use of conventional percussion instruments such as tambourines in the iron section of the band (Morin, 1988). The emphasis is obviously on metallic colors and textural variety.

The sound of steeldrums has been associated with carnival music since about 1940. During this festive period, excitement is at a high pitch with thousands of people finding an outlet in unrestrained singing, dancing and playing (Royke, 1986). Mass festive processions are integrated art forms of music and dance that include parades, costume marches and what Trinidadians refer to as jump-up (Trinidad & Tobago Tourist Board, 1987).

Considering the carnival phenomena, one must begin to speculate about the kind of music that the people would find satisfying at such an event. In light of the large numbers and outdoor setting, the overall sound would have to be big and penetrating, loud and clear. The music of the steelband would have to be rhythmically strong and forceful to set bodies in motion. Along with these assumptions, one could add intensive, energetic and spirited performance styles. Tempos would likely be moderate to fast and dynamic levels high.

The steeldrum, then, is an instrument which can produce a thrilling, stimulating effect. Different pan sections possess their own special tone colors that simulate the sound and function of ensemble parts in alternate musical settings.

Steel orchestrations are well suited for large outdoor celebrations. Carnival calypsos obviously require some dynamics and temporal graduations, however, generally they would be played quite loud, up tempo, and with a strong rhythmic feel. Steelband calypso is music that moves both the bodies and the spirits of the people.

Notation and Improvisation

Trinidadians do not conventionally write down (notate) their music as a way of preserving or teaching it. Music is learned by rote and recorded in the minds of the people. The musical memory required of oral traditions is understandably quite extensive. Western musicians sometimes believe that music processed in this way is not organized, that it is largely improvisatory. While an understanding of variation and improvisational techniques is indeed important to gain a deeper understanding of the structure and aesthetics of Trinidadian music, it is also necessary to realize that these techniques are related to a kind of musical grammar that guides musicians. In generalizing about steelband calypso one must recall that just because arrangers do not notate their music it would be wrong to assume the product is disorganized. There are overall rules of formal structure that are in operation for composers.

Landeck (1961) and Liverpool (1985) both attested to the improvisation talents of the Trinidadian people. Calypsonians originally sang extemporaneously and today competi-

tions are still held which require participants to improvise solo verses on subjects that reflect the daily lives of the people. Landeck pointed out that the desire to embellish or improvise around a tune is evidenced by the use of voice breaks or pauses in the melodic rhythm. These spaces would allow room for ornamentation of the last tone or an echo of the last motif. Accompaniment figures or descant inventions are also commonly added by singers. These same techniques could also easily be used by instrumentalists. Caraibe (1984) contained two selections which demonstrated a calypso jazz style of improvisation by steelbandsmen. The writer was unable to find literary references about the improvisational practices of calypso as an instrumental form, however Holman (1988c) confirmed that experienced bands do improvise.

Concluding Statements

The purpose of this section has been to gain an understanding of Trinidadian music-culture through a search for the stylistic links between calypso and steelband. Table 4 serves to summarize these connections for the reader. Both sociological and musical parallels were drawn. The role that both calypso and steelband play in recording and reflecting cultural life and thought was discussed. The communal and functional values of music in Trinidadian society were extrapolated. And finally an extensive study of the musical sound itself was undertaken. The temporal, tonal, textural, formal, and expressive elements were analyzed. Some attention

was also given to the nature of improvisation and notation in the two art forms reviewed.

TABLE 4

Stylistic Links Between Calypso and Steelband

| SOCIO-CULTURAL FEATURES |
|---|
| - oral traditions chronicle Trinidadian life |
| - growth out of struggle and social unrest |
| - offers people a sense of community and identity |
| - operational principles are participation and unity |
| - addresses the fundamental needs of the people including: aesthetic expression, accomplishment, respect, power, make music, recreation, socialization |
| **MUSICAL FEATURES** |
| **Rhythm** |
| - prominent musical element |
| - notated in $^{2}/_{4}$ or $^{4}/_{4}$, but felt in combinations like $^{3+2+3}/_{8}$ |
| - meter changes throughout |
| - rhythm patterns change and variate inconsistently |
| - fast, complex rhythms |
| - polyrhythmical |
| - rhythmic performance is somewhat flexible |

Melody

- prominent musical element
- main intervals used are 2nds and 3rds
- diatonic scale patterns used in major, pentatonic, minor and modal tonalities
- modulation occurs in steelband calypsos
- mixed direction of pitch fragments
- conjunct and mixed progressions
- melodic climax often indefinite; sometimes in the middle
- contour is undulating
- melodic range average; instrumental range approximately 5 chromatic octaves

Harmony

- consonant and at times mildly dissonant
- harmony progresses most often by 4ths and 5ths
- additive harmonization methods employed
- homophonic and polyphonic qualities
- pitch motion often parallels, sometimes mixed
- harmonic rhythms often equal or identical
- use of combined accompaniment types

Form

- song form contains regular sections of 4 or 8 phrases
- AABB extends to theme and variation in instrumental calypsos
- repetition, contrast and variation are emphasized compositional principles

Expression

- sound quality is unique and bell-like
- sectional tone colors and functions simulate those of other ensemble
- loud dynamics and quick tempo
- strong rhythmic motion
- best suited for large outdoor celebrations

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NOTATION AND IMPROVISATION

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- use of notation is not traditional
- music is rote-learned and memorized
- musical products are organized
- improvisation often occurs at melodic breaks
- descants or accompaniment figures are added.

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## Teaching, Rehearsal and Arranging Strategies for Trinidadian Steelbands

The major thrust of the Summer Institute for Steelband Playing was to train a group of teachers and musicians who would acquire the skills and knowledge necessary to advance the art of steelband in Canadian communities and schools. This outcome obviously implied a fairly intense exposure to Trinidadian methods of music teaching and arranging for steelband. It was believed by institute planner, Dr. Colin Walley, that participants would need an opportunity to immerse themselves in steeldrumming as it is experienced in Trinidad. The possibility of authentic simulation became a reality when the University of Manitoba contracted Ray Holman to come to Canada and develop participant's performing skills using the teaching and rehearsal strategies employed in preparing his own Trinidadian band for steelband competitions (Walley, 1987b). Mr. Holman was also requested to arrange music for the institute band and share some of this expertise with participants.

It is the aim of this section to extrapolate various aspects of the Trinidadian model of music making and learning. The major sources of information were gleaned from participant observation in instructional sessions led by Ray Holman with assistance from the following section leaders: Albert John, a Trinidadian pannist, tuner and arranger; and members of the Winnipeg Steel Orchestra, Duane Sampson,

Darren Sampson, and Derek Lloyd. Dr. Colin Walley also used some introductory teaching techniques that might be of interest to potential steelband leaders.

Rote Learning

The oral transmission of music is a common practice in Trinidad. This characteristic is a direct reflection of the typical village tradition where all people are aware of how aspects of everyday life, including music, are organized. Trinidadian people simply do not find it necessary to read and write music as a way of teaching and learning and therefore musical ideas are communicated to others largely by rote.

During the first week of classes, Dr. Walley provided us with an active listening activity. While hearing a recording of a steelband calypso by Ray Holman, participants followed the calypso theme notated on the blackboard. Participants were then directed to read two-bar rhythmic fragments and beat these rhythms out on sticks or other penetrating objects while the researcher played the melody on the piano. Each fragment was counted slowly and was repeated until smooth and accurate execution was achieved. After much practice, the tempo of the fragments was increased and the phrases were gradually layered to provide an accompaniment for a complete performance of the melodic rhythm. It was gratifying to experience a second listening of the recording with a refined feel for the rhythms.

Steelband leaders emphasize imitation and repetition in their rote teaching strategies and therefore the players develop extraordinary abilities to concentrate and memorize musical works. Ray Holman demonstrated these techniques immensely in his rehearsals. Two-bar phrases were played and imitated by students until learned. Eventually these phrases were linked and came to function in longer musical sequences. The chaining of these sequences into sections and entire forms characterized the steadfast process. Associationist learning theorists such as Skinner and Gagne would support that learning to play a musical instrument involves the formation of these automated connections. This researcher predicts that, over time, exposure to this kind of auditory development would result in a rich storehouse of specialized musical patterns in the mind of the musicians that could be recalled at will. To a certain extent, this is a primary goal of the Dalcroze approach to music education.

Generally speaking, Holman showed some tendencies towards introducing more new phrases at the beginning of rehearsals. As sessions progressed, there seemed to be less emphasis on new material and more emphasis on linking and chaining. Numerous repetition of patterns helped players develop a kind of musical automation. It was interesting to find, however, that Holman would sporadically switch pieces during rehearsals. Questioning him about this strategy

revealed Holman's belief in the importance of keeping his players thinking and concentrating at all times.

The researcher attempted to identify a fixed procedural pattern that might characterize Holman's teaching strategies. To the contrary, the researcher found that the procedures for day-to-day rehearsals were always a bit of a surprise. Some rehearsals were difficult as he extended player's limits for learning several new phrases. The next day, he might allow for more consolidation and introduce only one or two new fragments. Sometimes the final hours of rehearsals were reserved for run-throughs of pieces and sometimes he would employ a complete reverse strategy and begin teaching an entirely different piece. The only procedural statement that the researcher can make with any degree of certitude is that Holman worked in a very flexible and intuitive manner.

Rehearsals and instructional sessions were largely aural experiences except for the fact that like some Trinidadian pannists, institute participants were allowed to have the letter names of the notes written on the tonal spaces of the pans. Holman gave additional cues by tapping the rhythm of the part on the outside of the drum and singing the part. He had once indicated that he played pan for years without musical training and even now as a music literate rarely relies on his theoretical skills for performing or arranging. Notation was never used by Ray Holman or the section

leaders during rehearsals or performances. The researcher did not record one theoretical reference to music during rehearsals. Even the overall form of the piece was left for the ear to hear and the mind to record.

Steeldrumming depends, in part, on a large number of refined and coordinated movements. Motor learning through modelling the movement patterns of the teacher often provided the basis for developing playing techniques and learning parts. It is this aspect of steeldrumming that can be considered to involve some integration of visual learning. In the early stages of learning motor patterns, the student has to watch for and think intensely about correct movements. After much practice, however, further initiations become more fluent and require less conscious direction. The more reflexive these patterns can be made in steeldrumming, the more the conscious mind can be directed to other tasks of the musical performance. Bush (1981) shared his observations during a trip to Trinidad for Panorama:

> The arrangement is taught to the band by the arranger in small segments, not usually more than 20 bars in an evening. He either sings the part for each individual section or uses a blackboard with the letter names of the notes written down. After the notes and rhythms are taught, the emphasis shifts to phrasing, dynamics, and balance. Consequently, the process of working up a tune

for Panorama is a long and tedious one. (p. 57)

Since Western musicians rely quite heavily on visual acquisition of musical information it was not surprising to find that many participants wanted to write the music down. Shehan (1987) cautioned that the extent of visual stimulation in our society may contribute significantly to musical memory and that the exclusion of notation might be detrimental to musical learning from the Western perspective. While aural training seems vital in developing steeldrumming skills, musical memory might be enhanced by pairing auditory and visual clues. American steeldrum teacher Tom Miller (1986) offered these comments:

> But for non-music majors or younger students, teaching them from the start by rote will probably be the best method. Although you may eventually want this group to read music, teaching by rote at first will give them an orientation to pans sooner. Even for ensembles that read, occasional teaching by rote can do nothing but good. It can help students with ear training and in giving them a better understanding of the art of steelband as it is practiced in Trinidad. (p. 50)

In addition to notation, participants did search for other memory-enhancing devices. The researcher observed many students audio-recording rehearsals as a way of pre-

serving what had been learned. Informal discussions with participants brought forth other ways of remembering pieces. Some said they tried to retain and review mentally the visual patterns of the movements around the pan. Others tried to create a visual image of the melodic contour of patterns. In addition, mnemonic devices such as rhythm syllables were worked out by some players as an aid to memorizing and learning parts.

Rote learning seems to be crucial in the building of steeldrumming skills. Teachers emphasize imitation and repetition which results in players' expanded musical memories and a bank of uniquely Trinidadian musical images. Playing techniques are largely established through modelling and practicing the teacher's movement patterns until they become reflexive. Institute students sought to supplement their aural training with memory-aids such as notation, tape recorders and mnemonics.

Mastery and Rotation of Instruments

At the beginning of the Summer Institute for Steelband Playing, participants were given some time to explore the various steel instruments in an informal and individual way. By the end of the first week, however, each participant had to decide which instrument they would spend the next four weeks playing and learning. The researcher chose the single tenor pan for the following reasons: (a) challenging to play; (b) serves as both lead ensemble or solo functions;

and (c) ease of transportation. A tenor pan constructed and tuned by Jim St. Rose was purchased for $505.00 and was added to the researcher's personal collection of musical instruments.

There seems to be some concern by steelband teachers that instruction on one instrument be mastered so that it provides a better service to the student in the future. Holman (1988b) was very firm on the idea that students be assigned a particular steeldrum until skills are proficient enough to warrant introduction to a new instrument. O'Conner (1981c) shared this notion:

> I have found that this familiarity is easier to achieve if a player stays on a specific set of instruments until he has really mastered them. It is at this point that moving to other sets should take place. For some reason I can't explain, the transfer from one set of drums to another is very fast after an initial set has been learned, rather than trying to digest the note pattern of two or three different sets of drums at the same time. It also seems to allow the player to grasp the proper function of each individual part and its relation to the whole more quickly and effectively. (p. 60)

What O'Conner just described sounds very much like the Bruner concept of specific transfer of training. This simply refers

to the player's ability to use specific playing skills in similar situations encountered later.

Miller (1986) reviewed the values of the fixed-instrument approach to instruction. These included: (a) mastery learning of the note pattern of a particular pan occurs; (b) players become more comfortable, more quickly; (c) rehearsals are smoother; and (d) parts can be prepared more efficiently. Of particular interest to elementary music educators, Miller attested the one-on-one approach as best suited to ensembles of young students.

There are steelband leaders who do rotate instruments from the outset of their programs. Players would be introduced to a new instrument and part each time a different piece was being prepared. Miller (1986) said the advantages of rotating assignments are: (a) exposure to all instruments over time; (b) more versatile and adaptable players; (c) a more wholistic appreciation for the ensemble; and (d) familiarity with the note patterns of all pans. Miller did add, however, that alternating pans was very time consuming and more appropriate for college level players.

Steelband teachers might also consider assessing the musical skills of their students and suggest pairing these players with instruments where the potential for success seems highest (Miller, 1986; Morin, 1988). Lead and double tenor players require the abilities of complex rhythmic play, melodic improvisation and agile movement around a

smaller area. Double seconds will need to be able to play both melodies and chord patterns. Moving with ease from one barrel to another while keeping consistent rhythmic patterns is needed by cello players. Good mobility over a larger playing area and a good sense of time are necessary for bass pannists.

In this sub-section, the fixed versus alternating methods of assigning instruments were compared. The concepts of mastery learning and transfer of training were seen as applicable to teacher-decisions regarding the rotation of instruments. Initial assignments of instruments to students might take into consideration both musical skills and expressed interest.

Sequencing Ensemble Playing

The first step in ensemble playing at the summer institute involved working in sections. Holman would sometimes teach the parts respectively to the section leaders who seemed to gain command over the parts rather quickly and were left to continue helping participants. At other times he would rotate among the sections and introduce the new phrase himself. Time was always provided for individuals to play and imitate these phrases until they were learned. The researcher found that during this individual practice time, it was necessary to block out all other sounds and simply focus on the sound of one's own pan.

The second step was to begin layering sectional parts of the same phrase. The higher pitched sections worked together

until some sense of musical unity was established. Then this same procedure was employed separately with the low pitched drums. When Holman was satisfied, he moved on to the third step, which was a full band rehearsal of that particular phrase. The fourth and final step was to link the target phrase to previously learned phrases with the entire ensemble. Performance problems that emerged and persisted were dealt with by going back to previous steps and simply re-working.

It might be appropriate at this time to point out that for the most part Holman's teaching style was very non-technical and player-centered. Rather than diagnosing the source of the musical shortcomings within the ensemble and prescribing a means for improvement as is the Western practice for music teaching, Holman would just stop the band and ask players to repeat. His comments were usually uncritical and nondirectional. It appeared as though Holman relied on the developing sensitivity of the players to discover and correct the problems through further repeated experiences. The researcher was amazed at how little instructional talk was given by Holman and the numerous instances of musical success that resulted from this strategy.

The researcher felt that some valuable learning could have occurred by creating some smaller ensemble activity before progressing to the large band. As a participant there was always some feeling that other members of your section were playing a very supportive role. This participant-

researcher wanted to be assured of her ability to play the assigned part independently within a single player-on-a-part situation. O'Conner (1981c) substantiated this idea:

> Only in an ensemble of this type [small fixed-instrument group] can the players really learn the proper styles of playing and the many subtle rhythmic inflections that can completely change the character of any particular song. If a person or institution is fortunate enough to be able to purchase enough instruments to make a large band (anything over 10 to 12 players), he should not ignore the simultaneous sectioning of several small unit ensembles in addition to the larger ensemble. It is in these smaller groups that the players will really learn the instruments thus making the potential for the larger ensemble even greater than originally envisioned. (p. 60)

The sequencing from smaller to larger group playing situations seems important to the development of a quality steelband. Teachers might begin with sectional rehearsals and progress to layering parts of high and low pitched drums in separate groups. Opportunities for small ensemble work could be provided before the large band works as an entire unit. It appeared that a low profile teaching style might contribute to the development of the musical sensitivity of

the ensemble.

Playing Techniques

As mentioned earlier, it was very difficult to locate Trinidadian publications about methods of teaching steelband. There is one Caribbean band leader, however, who has attempted to write a series of tutorials for young students. Tony Prospect (1978a-h) of the Old Oak Casablanca Steelband has provided beginning players with practical and technical courses of study for eight different pans. A review of these manuals gave the researcher some initial insights into the kind of technical exercises that might be appropriate for steeldrum players. Since the researcher chose to play a lead tenor pan, the focus was on playing techniques for that instrument. It should also be noted at this point that because of the non-standardization of note patterns on steeldrums, publications like these are somewhat limited.

All of the Prospect tutorials began with a theoretical overview of the origin and construction of steeldrums in general. They all contained the same cursory introduction to the rudiments of music. Unique information regarding the range, note patterns, musical characteristics and construction details were given in each booklet.

Prospect (1978a) explained that the most important playing technique for a tenor steeldrummer to master is the ability to prolong or sustain a note by means of a roll. The way he described the performance of a roll sounded very simi-

lar to the researcher's experience of executing a tremelo on various tone-bar or drum instruments.

> Hold both sticks with the Thumb and first finger at the point of balance, with both hands facing downwards to the pan, the left hand a little forward. Now, let the sticks gently fall on the notes, first with the left, then the right, the action is left, right, left, right, left, etc. . . controlling them with an easy movement of the wrist. Do not raise your sticks more than six inches from the note, remember that the playing action should come only from your wrists. (p. 18)

Exercises required students to play rolls on many different pitches for a whole note duration.

The next series of exercises in the Prospect manuals were built around the scale of C major. The scale was practiced using a repeated rhythm pattern employing half and quarter notes. Playing the scale in melodic octaves, melodic thirds, and harmonic thirds were suggested in that sequence. Pieces involving rests and the observation of phrases were given but without technical explanations.

A theoretical explanation of sharps, flats, naturals and key signatures preceded a discussion of minor scales. The pattern was then to introduce each major key along with its relative minor. Technical exercises included learning to play scales, broken chords and inversions, and simple

melodies in the target key. The keys were introduced in the following order: C+, A-, F+, D-, G+, E-, $B^{b}$+, G-, D+, B-, A+, $F^{\#}$-, C-, $E^{b}$+, $A^{b}$+, and F-.

Towards the end of the manual, the major scales were presented ascending and then descending through to their relative minors, ascending in melodic form. Then they descended and modulated to a new key which was the subdominant of the tonic key. The tutorial concluded with eleven pieces that tenor pan players could spend their time learning.

After reviewing the manuals of a Trinidadian teacher who obviously had some musical training, the researcher expected Ray Holman would approach the practical preparation of pan players much like Prospect and perhaps not unlike Canadian teachers would prepare students of piano or violin. It was expected that theoretical musical concepts might be interspersed to a certain extent with specific technical exercises based on the roll, scales, chords, melodies and modulations.

To the astonishment of the investigator, Ray Holman spoke very little of specific playing techniques. During an interview he stated that it was possible, but very untypical of Trinidadian teachers to develop technical exercises for students (Holman, 1988b). In his introductory remarks to the institute participants, he did mention briefly a number of skills that would need to be developed (Holman, 1988a).

First, he suggested that players squeeze rubber balls to strengthen their wrists for "rolling" or sustaining notes. This skill, he said, is executed from wrist and not the shoulder or the elbow. Secondly, players would need to learn how to distribute their hands in the pans, but he did not elaborated on what this meant. Third, players were to aim for a sweet, clear, melodious sound with no distortion. He directed participants to search for the exact amount of striking force necessary to draw the best sounds possible from the instrument. And last of all, Holman said players would have to develop a way of communicating with the instrument so that playing would become a very natural activity. Holman verbalized very little about "how to" play throughout the duration of the institute.

From initial observations, it became quite clear that the mallet techniques used by steeldrummers were quite different than those techniques used by other percussionists. Because the researcher had never played with such short sticks before, it was decided that the first skill to acquire would be the correct holding position of the sticks. From focused observations, it was noted that the sticks were held loosely in the first joints of the index fingers with support from the other fingers curved underneath. The thumb almost served as an extension of the beater and the two formed a straight line.

Specific playing techniques were developed out of necessity in attempts to perform accurately in particular musical

contexts. For example, during the first rehearsal, Holman introduced the first phrase of "Somewhere Over a Rainbow", which required players to prolong notes through the roll. He refrained from coming around with technical explanations about executing rolls. He very simply demonstrated a particular musical effect achieved only through performing rolls precisely. Each time the phrase was practiced, different ways of matching Holman's musical effects were tried. Eventually, the researcher discovered technical aspects about the roll such as wrist relaxation and alternating the hands with even amounts of energy and time.

The researcher soon came to realize what Holman was referring to by learning to distribute one's hands in the pan. Playing particular melodic fragments required players to carefully choreograph the movement of the hands around, inside and across the tones of the instrument in a coordinated fashion. Again, the teacher did not request students to mirror his movement patterns, but rather challenged each individual to find movement patterns that worked comfortably for them. Some students did try to model the teacher's patterns, but many were able to find these patterns for themselves or alternate ways of coming to the same result.

In retrospect, once the researcher could hold the sticks properly, it is very difficult to say more than that technique was developed largely through critical listening, personal trial-and-error and simply striving to imitate the

Trinidadian style of playing that was so capable of producing beautiful musical sounds. Each time a new musical phrase was introduced, new techniques were required to achieve an accurate recreation of the sound. In this way, a repertoire of various striking actions resulted. Eventually the researcher felt a gradual control over the muscular energy required to move the wrist and arm in ways to produce the desired tone qualities; and hence, improved technical ability.

The steeldrum as a means of musical expression for the researcher felt quite unlikely for the first few rehearsals. First, the linear succession of notes on the piano or the very predictable tonal spaces of the fret bars of a guitar were just not there. It felt extremely strange to move towards the left for a higher note or jump completely across the pan to play a semitone. There was a need to overcome past practices of alternating the hands on each new pitch like one does on a xylophone. It seemed impossible to find out how the instructor was counting and to grasp the rhythmic style and phrasing. Only remembering the melody of each fragment seemed to be easy. These first days were extremely intense and the researcher must admit being completely exhausted after the five to six hours of rehearsals daily.

Towards the end of the first week, however, there were instances of some command over the instrument being achieved. A few passing compliments from the instructor and Trinidadian musicians helped to confirm this new emerging feeling of com-

fort. New phrases were learned quicker, technical skill was developing, the search for note patterns was more reflexive, and finally a feel for the rhythmic phrasing was established. There were still moments of struggle, but these were less frequent and the overall rehearsals were not quite so tiresome. This remained the pattern for continual growth as the weeks of rehearsals progressed to a finish.

By the end of the institute, steeldrumming was a more legitimate and enlightening musical encounter for the researcher. The entire experience certainly offered an immense amount of personal joy and accomplishment that, in a way, fulfilled a realized musical need of making music in a very untouched, natural way. It is with much excitement that the researcher looks forward to continuing this practice until an expressive unity is genuinely achieved between this musician and the tenor pan.

In recapturing the essence of this sub-section regarding the teaching and learning of steeldrum playing techniques, it was found that Ray Holman did not reflect any Western influences in his instructional approaches as might other Trinidadian teachers. He carefully framed required skills from the outset, but avoided technical explanations during rehearsals. Holman operated on a player-centered self-discovery level as he set up opportunities for skills to flourish in particular musical contexts. In addition, a de emphasis on the use of teacher-talk, coupled with an extremely efficient use of

rehearsal time for making music, seemed central to his approach to the musical development of his players. Critical listening and trial-and-error became the processes through which musical images were recreated and the necessary skills developed. Intense concentration and intrinsic motivation were found to be prerequisite for a gradual entry into the Trinidadian way of music making.

Arranging for Steelbands

The first question that came to mind about arranging for steelband is what pool of musics would be best suited for these instruments. In addition to the traditional calypso and classical styles, the following list was compiled from a number of authoritative sources: pop, jazz, reggae, bluegrass, Irish, African mbira, Latin American, ballads, road marches, and fusion (Peters, 1976; Gibson, 1986b; Snider, 1986b; Miller, 1986; Morin, 1988; Holman, 1988c).

Some guidelines have been suggested by others to help with the very difficult selection process from a multitude of potentially workable melodies. Bush (1981) said that tunes arranged for steelbands should have a great deal of public appeal. Those with a lyrical dimension should be singable as well as comfortable to listen to. Selections that afford ample opportunity for virtuosic display by various sections of the band provide for additional excitement. Holman (1988c) suggested avoiding pieces with a great deal of sustainment required.

Holman (1988c) and O'Conner (1981b) recommended processes for writing or selecting a calypso for a steelband arrangement. The crucial part of the selection is judging a piece that leaves room for the arranger to work within. Some calypsonians write with specific purposes of leaving space for additional chords, extra lines for the harmony parts and opportunities for expansion. These are more appropriate than calypsos which are already very musically structured. Holman pointed out that the melody must be beautiful but at the same time simple. The calypsos he composed for the institute band demonstrated these criteria.

Arranging techniques based on transcriptions of classical pieces might be the simplest way for an inexperienced arranger to begin (Miller, 1986). Arrangements evolving from chamber works can easily be written by matching parts with the corresponding steeldrum range displayed in Table 4. A piano reduction can be used as well by assigning the treble line to the double tenor and double second, and giving the bass as written to the guitar and cello. The arrangement can be extended by reinforcing the bass line an octave below with a bass pan and adding a lead pan an octave above the melody. According to Miller, many classical pieces are not difficult to adapt for the steelband.

The basic arrangement for a calypso was synthesized from Holman (1988c), Miller (1986) and Gibson (1986b). The key is chosen according to the sound desired by the arranger who

usually begins with a melody line, one strum pattern, and a bass line. This might even be all that is desired by teachers of very young pan players. Next, a harmony line at an interval of a third or sixth below the melody can be added. Also, the bass and melody lines can be octave doubled to establish a fuller dynamic range. And finally, different strum patterns can be added to the middle range. The more competent the players become, the more complex the arrangements can be written. Table 5 gives the reader an overview of how different sections of the steelband can be used in an arrangement. These functions were highly characteristic of Holman's orchestrations and, hence, experienced by the institute participants.

TABLE 5

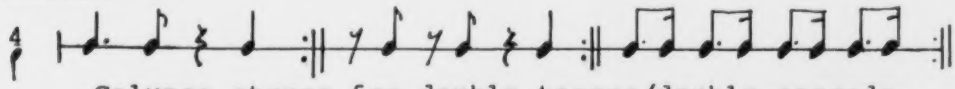
Basic Functions of Sections in Arranging for Steelbands

| SECTION | FUNCTION |
|---|---|
| Lead Tenor | Melody; harmony line a 3rd or 6th below lead |
| Double Tenor | Melody in unison or an octave below lead; harmony line a 3rd or 6th below lead melody; strum pattern |
| Double Second | Melody an octave below lead; strum patterns (3rds, 7ths, color tones) |
| Guitar and Cello | Strum pattern (roots and 5ths); double bass line an octave above |
| Bass | Bass line (roots and 5ths); doubles all notes in octaves where range allows |

The middle voices are very important in steelband music and serve to define the harmony. Because the strumming patterns are such a crucial part of the calypso arrangement, more information is warranted. A strum pattern is a repetitive rhythm on two notes of the harmony in each instrument (Miller, 1986). Chords can be filled out completely by assigning two other tones to another strumming instrument. Gibson (1986b) cautioned, however, that divisi parts are most effective in the mid-to-upper ranges. A calypso strum rhythm pattern is usually shared by the double tenors and seconds, while another pattern is shared by the guitar and cello players. The chord changes of the guitar and cello part are often written to occur on the last eighth or sixteenth note of the measure to create more forward motion and anticipation.

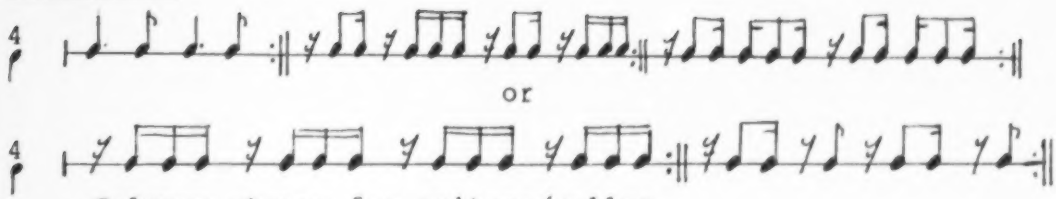
Gibson (1986b) simplified his notation system by indicating the strumming pattern in brackets above the staff at the beginning of a section. The pitches to be played and changed were indicated on the staff using quarter and half notes. Some common strumming patterns are given in the examples below.

Example 10



Calypso strums for double tenors/double seconds.

Example 11



Calypso strums for guitars/cellos.

It can be recalled from a previous sub-section that calypsos are usually arranged in a theme and variations form. Gibson (1986b) identified some of the devices used by more sophisticated Trinidadian arrangers:

> Modulations, episodic passages, countermelodies, thematic fragmentation, augmentation and diminution, shifting the melody from section to section, full dynamic contrast, and changing textures are some of the many techniques Trinidadian arrangers learned from transcribing classical works. As calypso arranging became a more serious art, arrangers began using techniques to give more body and development to their calypso arrangements. (p. 45)

From these words it becomes obvious that once the theme of a calypso has been arranged, the variations will need to be composed. In most cases, arrangers would treat each as an independent musical entity. Since the art of variation writing is a complex and creative task, the researcher could not address it in any significant way in this paper.

The traditional styles of music associated with steel-

bands were found to be calypso and classical, though many other styles have been identified as quite workable. The primary criteria for selecting a melody for arrangement were audience pleasure and potential for musical expansion. Suggestions for transcribing a piece for steelband were given. Basic arranging for a calypso theme was found to include melody, harmony, bass lines and strum patterns. Devices used for composing variations were briefly discerned.

Concluding Statements

The purpose of this section was to search for information about how music is taught and arranged in Trinidad. Critical principles of this ethnic model include both rote and mastery learning, motor patterning and fixed-instrument assignment. The researcher proposes that imitation, repetition, appropriate ensemble sequencing and the use of supplementary memory-aids are the keys to developing a Trinidadian musical sense. Versatile steeldrumming skills are developed through a recreative process involving critical listening, personal exploration with the instruments, and trial-and-error.

The focus of instruction was always on making music. The teaching style demonstrated can be described as very decentralized with the responsibility for musical development largely transferred to the learner. The instructor worked with a subdued front in an intuitive, flexible, and non-technical manner.

Classical pieces can be transcribed very directly from piano reductions, chamber or orchestral scores for steelband. Arranging an entire calypso is more of a creative enterprise, however, a specific working outline for the theme could be outlined. Techniques for writing melody, harmony, strum and bass lines were found to be accomplished in standardized ways.

## Summation and Future Agenda

The purpose of this study was to develop a descriptive model of the Trinidadian tradition of steelband as it was experienced through a personal immersion in an authentic simulated setting. Initial phases of the analytic induction method employed resulted in the emergence of four major strands of questions. The sources of data from which samples were collected, analyzed and interpreted were diverse. The results of the study have been logically presented in four major sections with accompanying tables, figures, examples, or photographs where appropriate. The concluding remarks relevant to each major question are located at the end of each section.

A logical outgrowth of this study for an elementary music educator would be to interface the resulting Trinidadian model of musical ability with curriculum and instruction in Canadian elementary music classrooms. The following questions are recommended for further study:

How would music educators proceed in setting up an elementary steeldrum program in Canadian schools?

What is the status of steelband programs in North America?

On what bases can a steelband program be rationalized for inclusion in the curriculum?

How does the Trinidadian model inform music educators about methods of learning and teaching Canadian children?

What should be taught about Trinidadian musics to Canadian children?

How could the curriculum material be organized and sequenced?

What logistical concerns would music educators have and how might these be addressed?

This research study has presented a substantial amount of qualitative data related to the Trinidadian tradition of steelband. The four themes addressed included: (a) the evolution of steelband; (b) construction and tuning methods; (c) a stylistic analysis of calypso; and (d) teaching, rehearsal and arranging strategies. It is hoped that the information base provided will serve as a starting point for the development of steelband programs in Canadian schools.

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